

Appendix A

Data Collection Instruments

Appendix B
Sample Allocation

Sample Allocation for the Second-Phase Sampling

Table 1. The Results of the Second-Stage Sample Allocation for Personnel Type 1 (Teachers who work primarily with preschoolers with disabilities)²

PER_TYPE	SIZE ¹	REGION	N_LEA	ACCEPT	NPROVID	NPROVID2	REG_N	TOT_N
1	1	1	2	1				
1	1	2	18	8	464	464	125	189
1	1	3	30	16	605	605	136	205
1	1	4	7	4	210	210	44	66
1	1	5	8	3	60	60	19	29
1	1	6	11	9	670	670	98	148
1	2	1	44	4	42	42	42	42
1	2	2	117	12	63	63	63	63
1	2	3	172	14	76	76	76	76
1	2	4	141	9	80	80	80	80
1	2	5	70	5	86	86	86	86
1	2	6	182	14	46	46	46	46
1	3	1	590	16	26	26	26	26
1	3	2	362	10	19	19	19	19
1	3	3	548	12	26	26	26	26
1	3	4	1,052	29	51	51	51	51
1	3	5	168	6	11	11	11	11
1	3	6	403	9	14	14	14	14
1	4	1	1,730	13	14	14	14	14
1	4	2	247	2	1	1	1	1
1	4	3	1,745	11	5	5	5	5
1	4	4	3,329	36	15	15	15	15
1	4	5	1,829	19	8	8	8	8
1	4	6	1,046	9				
1	5	1	75	3	2	2	2	2
1	5	2	1	1	7	7	3	7
1	5	3	82	4	2	2	2	2
1	5	4	442	22	99	99	99	99
1	5	5	201	11	9	9	9	9
1	5	6	96	5	15	15	15	15
Total			14,748	317	2,726	2,726	1,135	1,354

¹ Note: IEUs and State schools are Size 5 and 6, respectively

² Note: Definition of variables:

- PER_TYPE: Personnel type of the service provider;
- SIZE: Size stratification;
- REGION: Region stratification;
- N_LEA: Number of agencies in the population;
- ACCEPT: Number of participating agencies;
- NPROVID: Number of providers in the frame;
- NPROVID2: Estimated number of providers in the frame;
- REG_N: Core (regular) sample size;
- TOT_N: Total sample size including reserve sample.

Table 2. The Results of the Second-Stage Sample Allocation for Personnel Type 2 (Teachers who work primarily with students with sensory impairments)²

PER_TYPE	SIZE ¹	REGION	N_LEA	ACCEPT	NPROVID	NPROVID2	REG_N	TOT_N
2	1	1	2	1				
2	1	2	18	8	305	305	266	305
2	1	3	30	16	428	428	311	409
2	1	4	7	4	347	347	235	310
2	1	5	8	3	39	39	39	39
2	1	6	11	9	507	507	240	316
2	2	1	44	4	30	30	30	30
2	2	2	117	12	42	42	42	42
2	2	3	172	14	64	64	64	64
2	2	4	141	9	56	56	56	56
2	2	5	70	5	31	31	31	31
2	2	6	182	14	18	18	18	18
2	3	1	590	16	4	4	4	4
2	3	2	362	10	8	8	8	8
2	3	3	548	12	15	15	15	15
2	3	4	1,052	29	22	22	22	22
2	3	5	168	6	11	11	11	11
2	3	6	403	9	7	7	7	7
2	4	1	1,730	13	15	15	15	15
2	4	2	247	2	2	2	2	2
2	4	3	1,745	11	1	1	1	1
2	4	4	3,329	36	7	7	7	7
2	4	5	1,829	19	4	4	4	4
2	4	6	1,046	9	3	3	3	3
2	5	1	75	3	7	7	7	7
2	5	3	82	4	3	3	3	3
2	5	4	442	22	64	64	53	64
2	5	5	201	11	17	17	13	17
2	5	6	96	5	9	9	7	9
2	6	1	5	3	73	73	9	11
2	6	2	16	10	548	548	64	77
2	6	3	17	14	519	519	46	56
2	6	4	16	12	399	399	39	47
2	6	5	12	8	194	194	21	26
2	6	6	10	6	162	162	20	24
Total			14,823	369	3,962	3,962	1,714	2,061

¹ Note: IEUs and State schools are Size 5 and 6, respectively

² Note: Definition of variables:

PER_TYPE: Personnel type of the service provider; SIZE: Size stratification;
 REGION: Region stratification; N_LEA: Number of agencies in the population;
 ACCEPT: Number of participating agencies; NPROVID: Number of providers in the frame;
 NPROVID2: Estimated number of providers in the frame;
 REG_N: Core (regular) sample size;
 TOT_N: Total sample size including reserve sample.

Table 3. The Results of the Second-Stage Sample Allocation for Personnel Type 3 (Teachers who work primarily with students with emotional disturbances)²

PER_TYPE	SIZE ¹	REGION	N_LEA	ACCEPT	NPROVID	NPROVID2	REG_N	TOT_N
3	1	1	2	1	41	41	40	40
3	1	2	18	8	801	801	76	98
3	1	3	30	16	1,820	1,820	145	185
3	1	4	7	4	555	555	41	53
3	1	5	8	3	109	109	12	16
3	1	6	11	9	414	414	21	27
3	2	1	44	4	101	101	47	60
3	2	2	117	12	135	135	56	71
3	2	3	172	14	166	166	86	111
3	2	4	141	9	212	212	141	180
3	2	5	70	5	121	121	72	92
3	2	6	182	14	62	62	34	44
3	3	1	590	16	15	15	15	15
3	3	2	362	10	32	32	32	32
3	3	3	548	12	34	34	34	34
3	3	4	1,052	29	125	125	125	125
3	3	5	168	6	9	9	9	9
3	3	6	403	9	7	7	7	7
3	4	1	1,730	13				
3	4	2	247	2	2	2	2	2
3	4	3	1,745	11	6	6	6	6
3	4	4	3,329	36	23	23	23	23
3	4	5	1,829	19	2	2	2	2
3	4	6	1,046	9	1	1	1	1
3	5	1	75	3	18	18	18	18
3	5	2	1	1	155	155	8	30
3	5	3	82	4	16	16	16	16
3	5	4	442	22	43	43	43	43
3	5	5	201	11	19	19	18	19
3	5	6	96	5	11	11	11	11
Total			14,748	317	5,055	5,055	1,141	1,370

¹ Note: IEUs and State schools are Size 5 and 6, respectively

² Note: Definition of variables:

- PER_TYPE: Personnel type of the service provider;
- SIZE: Size stratification;
- REGION: Region stratification;
- N_LEA: Number of agencies in the population;
- ACCEPT: Number of participating agencies;
- NPROVID: Number of providers in the frame;
- NPROVID2: Estimated number of providers in the frame;
- REG_N: Core (regular) sample size;
- TOT_N: Total sample size including reserve sample.

Table 4. The Results of the Second-Stage Sample Allocation for Personnel Type 4 (All other special education teachers who do not fit in types 1-3)²

PER_TYPE	SIZE ¹	REGION	N_LEA	ACCEPT	NPROVID	NPROVID2	REG_N	TOT_N
4	1	1	2	1	417	417	102	126
4	1	2	18	8	6,824	6,824	161	198
4	1	3	30	16	11,187	11,187	219	271
4	1	4	7	4	4,426	4,426	81	100
4	1	5	8	3	1,730	1,730	48	60
4	1	6	11	9	8,233	8,233	105	130
4	2	1	44	4	818	818	94	116
4	2	2	117	12	1,023	1,023	104	129
4	2	3	172	14	2,015	2,015	259	320
4	2	4	141	9	1,034	1,034	169	209
4	2	5	70	5	830	830	122	150
4	2	6	182	14	1,092	1,092	148	183
4	3	1	590	16	508	508	196	242
4	3	2	362	10	347	347	131	162
4	3	3	548	12	436	436	208	257
4	3	4	1,052	29	681	681	258	319
4	3	5	168	6	149	149	44	54
4	3	6	403	9	164	164	77	95
4	4	1	1,730	13	121	121	121	121
4	4	2	247	2	18	18	18	18
4	4	3	1,745	11	68	68	68	68
4	4	4	3,329	36	222	222	215	222
4	4	5	1,829	19	36	36	36	36
4	4	6	1,046	9	42	42	42	42
4	5	1	75	3	111	111	74	89
4	5	2	1	1	53	53	3	3
4	5	3	82	4	70	70	38	46
4	5	4	442	22	260	260	139	167
4	5	5	201	11	116	116	56	68
4	5	6	96	5	66	66	34	41
Total			14,748	317	43,097	43,097	3,370	4,042

¹ Note: IEUs and State schools are Size 5 and 6, respectively

² Note: Definition of variables:

- PER_TYPE: Personnel type of the service provider;
- SIZE: Size stratification;
- REGION: Region stratification;
- N_LEA: Number of agencies in the population;
- ACCEPT: Number of participating agencies;
- NPROVID: Number of providers in the frame;
- NPROVID2: Estimated number of providers in the frame;
- REG_N: Core (regular) sample size;
- TOT_N: Total sample size including reserve sample.

Table 5. The Results of the Second-Stage Sample Allocation for Personnel Type 5 (Speech-language pathologists)²

PER_TYPE	SIZE ¹	REGION	N_LEA	ACCEPT	NPROVID	NPROVID2	REG_N	TOT_N
5	1	1	2	1	59	59	42	53
5	1	2	18	8	1,101	1,101	55	68
5	1	3	30	16	1,989	1,989	82	103
5	1	4	7	4	528	528	20	25
5	1	5	8	3	384	384	23	28
5	1	6	11	9	922	922	25	31
5	2	1	44	4	152	152	37	46
5	2	2	117	12	157	157	34	42
5	2	3	172	14	261	261	71	88
5	2	4	141	9	171	171	59	74
5	2	5	70	5	198	198	61	76
5	2	6	182	14	181	181	52	65
5	3	1	590	16	93	93	75	93
5	3	2	362	10	58	58	46	58
5	3	3	548	12	68	68	68	68
5	3	4	1,052	29	153	153	122	153
5	3	5	168	6	29	29	18	22
5	3	6	403	9	36	36	35	36
5	4	1	1,730	13	26	26	26	26
5	4	2	247	2	4	4	4	4
5	4	3	1,745	11	14	14	14	14
5	4	4	3,329	36	40	40	40	40
5	4	5	1,829	19	8	8	8	8
5	4	6	1,046	9	7	7	7	7
5	5	1	75	3	29	29	15	18
5	5	2	1	1	14	14	3	3
5	5	3	82	4	27	27	12	14
5	5	4	442	22	148	148	62	75
5	5	5	201	11	39	39	15	18
5	5	6	96	5	25	25	10	12
Total			14,748	317	6,921	6,921	1,141	1,368

¹ Note: IEUs and State schools are Size 5 and 6, respectively

² Note: Definition of variables:

PER_TYPE: Personnel type of the service provider;
 SIZE: Size stratification;
 REGION: Region stratification;
 N_LEA: Number of agencies in the population;
 ACCEPT: Number of participating agencies;
 NPROVID: Number of providers in the frame;
 NPROVID2: Estimated number of providers in the frame;
 REG_N: Core (regular) sample size;
 TOT_N: Total sample size including reserve sample.

Table 6. The Results of the Second-Stage Sample Allocation for Personnel Type 6 (Special education paraprofessionals)²

PER_TYPE	SIZE ¹	REGION	N_LEA	ACCEPT	NPROVID	NPROVID2	REG_N	TOT_N
6	1	1	2	1	233	233	33	39
6	1	2	18	8	4,242	4,242	38	45
6	1	3	30	16	7,453	7,453	55	66
6	1	4	7	4	3,186	3,186	22	27
6	1	5	8	3	1,499	1,499	16	19
6	1	6	11	9	4,062	6,784	33	39
6	2	1	44	4	599	599	26	31
6	2	2	117	12	805	805	31	37
6	2	3	172	14	1,180	1,311	64	77
6	2	4	141	9	528	528	33	39
6	2	5	70	5	1,093	1,093	61	73
6	2	6	182	14	1,371	1,374	71	85
6	3	1	590	16	327	376	55	66
6	3	2	362	10	155	201	29	35
6	3	3	548	12	327	327	59	71
6	3	4	1,052	29	787	816	117	141
6	3	5	168	6	212	212	24	28
6	3	6	403	9	220	220	39	47
6	4	1	1,730	13	122	122	64	77
6	4	2	247	2	12	12	6	7
6	4	3	1,745	11	35	35	22	26
6	4	4	3,329	36	174	184	67	81
6	4	5	1,829	19	54	54	21	25
6	4	6	1,046	9	86	86	40	48
6	5	1	75	3	231	231	27	33
6	5	2	1	1	129	129	3	3
6	5	3	82	4	119	119	12	14
6	5	4	442	22	369	369	35	42
6	5	5	201	11	268	268	23	28
6	5	6	96	5	182	182	16	20
Total			14,748	317	30,060	33,050	1,142	1,369

¹ Note: IEUs and State schools are Size 5 and 6, respectively

² Note: Definition of variables:

PER_TYPE: Personnel type of the service provider;
 SIZE: Size stratification;
 REGION: Region stratification;
 N_LEA: Number of agencies in the population;
 ACCEPT: Number of participating agencies;
 NPROVID: Number of providers in the frame;
 NPROVID2: Estimated number of providers in the frame;
 REG_N: Core (regular) sample size;
 TOT_N: Total sample size including reserve sample.

Table 7. The Results of the Second-Stage Sample Allocation for Personnel Type 7 (General education teachers)²

PER_TYPE	SIZE ¹	REGION	N_LEA	ACCEPT	NPROVID	NPROVID2	REG_N	TOT_N
7	1	1	2	1	3,165	3,165	35	44
7	1	2	18	8	15,046	41,541	38	45
7	1	3	30	16	89,831	89,831	68	81
7	1	4	7	4	2,393	37,284	26	31
7	1	5	8	3	4,307	6,767	7	9
7	1	6	11	9	42,468	63,208	31	37
7	2	1	44	4	4,979	4,979	22	26
7	2	2	117	12	6,584	9,835	38	46
7	2	3	172	14	16,241	17,137	85	101
7	2	4	141	9	3,114	7,817	49	59
7	2	5	70	5	4,946	6,191	35	42
7	2	6	182	14	9,344	10,553	55	66
7	3	1	590	16	2,595	3,366	50	60
7	3	2	362	10	1,589	2,378	35	41
7	3	3	548	12	3,009	3,314	61	73
7	3	4	1,052	29	6,036	6,950	101	121
7	3	5	168	6	1,391	1,391	16	19
7	3	6	403	9	1,341	2,115	38	46
7	4	1	1,730	13	730	882	47	57
7	4	2	247	2	192	192	10	11
7	4	3	1,745	11	497	538	34	41
7	4	4	3,329	36	2,314	2,367	88	105
7	4	5	1,829	19	656	656	25	30
7	4	6	1,046	9	459	459	21	26
Total			13,851	271	223,227	322,916	1,015	1,217

¹ Note: IEUs and State schools are Size 5 and 6, respectively

² Note: Definition of variables:

PER_TYPE: Personnel type of the service provider;
 SIZE: Size stratification;
 REGION: Region stratification;
 N_LEA: Number of agencies in the population;
 ACCEPT: Number of participating agencies;
 NPROVID: Number of providers in the frame;
 NPROVID2: Estimated number of providers in the frame;
 REG_N: Core (regular) sample size;
 TOT_N: Total sample size including reserve sample.

Appendix C

Administrator Presurveys

IEU ADMINISTRATOR PRESURVEY

PLEASE REVIEW BEFORE SPeNSE INTERVIEW

The sheet is being provided to help facilitate the SPeNSE telephone interview. Throughout the interview there are some questions about your recruitment, hiring practices, and compensation that are sufficiently detailed, we thought you might need to look up responses ahead of time. The questions below are part of the telephone interview, although questions that do not pertain to your agency will be skipped in the actual interview. The interview will proceed more smoothly if you familiarize yourself with these data and have the completed sheet with you during the interview. If exact figures are unavailable, please estimate. Thank you for your help with this important study. **DO NOT RETURN THIS SHEET – IT IS FOR YOUR PURPOSES ONLY.**

1. Percentage of special education teachers employed in 1999-2000 in each racial/ethnic group

- a. American Indian or Alaska Native? | | | |
 - b. Asian?..... | | | |
 - c. Black or African American? | | | |
 - d. Hispanic or Latino? | | | |
 - e. Native Hawaiian or Other Pacific Islander?..... | | | |
 - f. White?..... | | | |
- = 100%

2. Number of full-time equivalent special education teachers employed or contracted for the 1999-2000 school year who were qualified to work with Limited English Proficient students | | | |
NUMBER

3. Number of full-time equivalent related service providers employed or contracted to work with students with disabilities for the 1999-2000 school year

- a. Physical therapists?..... | | | |
- b. Occupational therapists:? | | | |
- c. School psychologists? | | | |
- d. Sign language interpreters? | | | |

NUMBER

4. Since the end of the 1998-99 school year, number of job openings in each of the following positions

- a. Special education teachers who serve primarily children with disabilities ages 3-5..... | | | | | |
- b. Special education teachers who serve primarily students with visual or hearing impairments | | | | | |
- c. Special education teachers who serve primarily students with emotional disturbances | | | | | |
- d. Other special education teachers | | | | | |

NUMBER

5. Of the job openings in #4a-d, number that required special education teachers qualified to work with Limited English Proficient students | | | |
NUMBER

6. Since the end of the 1998-99 school year, number of job openings in each of the following positions
- a. Speech-language pathologists
 - b. Physical therapists.....
 - c. Occupational therapists
 - d. School psychologists
 - e. Sign language interpreters
- NUMBER
7. Of the job openings in #4a-d and #6a-e, number that resulted from staff turnover (Include retirements, people leaving special education, or people taking positions in private schools or other districts or agencies, NOT transfers within your district except for special education teachers who transferred to non-special education positions)
- NUMBER
8. Number of classes for which your agency sought class size waivers in 1999-2000 (if applicable)
- a. Classes for children with disabilities ages 3-5.....
 - b. Classes for students with visual or hearing impairments
 - c. Classes for students with emotional disturbances
 - d. Classes for other special education students.....
- NUMBER
9. Of the classes in #8 for which your agency sought class size waivers, number that were for classes for Limited English Proficient students (if applicable).....
- NUMBER
10. Number of personnel for whom your agency sought caseload waivers in 1999-2000 (if applicable)
- a. Special education teachers who serve primarily children with disabilities ages 3-5
 - b. Special education teachers who serve primarily students with visual or hearing impairments
 - c. Special education teachers who serve primarily students with emotional disturbances.....
 - d. Other special education teachers.....
 - e. Speech-language pathologists
 - f. Physical therapists.....
 - g. Occupational therapists
 - h. Sign language interpreters
- NUMBER
11. Of the personnel in #10 for whom your agency sought caseload waivers, number that were for special education teachers qualified to work with Limited English Proficient students
- NUMBER
12. Number of special education teachers hired between the end of the 1998-99 school year and October 1, 1999
- a. Teachers who serve primarily children with disabilities ages 3-5.....
 - b. Teachers who serve primarily students with visual or hearing impairments
 - c. Teachers who serve primarily students with emotional disturbances
 - d. Other special education teachers.....
- NUMBER

13. Percentage of newly hired special education teachers in #12 in each racial/ethnic group
- a. American Indian or Alaska Native? | | | |
 - b. Asian? | | | |
 - c. Black or African American? | | | |
 - d. Hispanic or Latino? | | | |
 - e. Native Hawaiian or Other Pacific Islander? | | | |
 - f. White? | | | |
- = 100%
14. Of newly hired special education teachers in #12, number qualified to work with Limited English Proficient students | | | |
NUMBER
15. Number of related service providers hired between the end of the 1998-99 school year and October 1, 1999
- a. Speech-language pathologists | | | |
 - b. Physical therapists | | | |
 - c. Occupational therapists | | | |
 - d. School psychologists | | | |
 - e. Sign language interpreters | | | |
 - f. Special education paraprofessionals | | | |
- NUMBER
16. Around October 1, 1999, number of job openings for special education teachers that were vacant or were temporarily filled by a substitute because suitable candidates could not be found
- a. Special education teachers who serve primarily children with disabilities ages 3-5 | | | |
 - b. Special education teachers who serve primarily students with visual or hearing impairments | | | |
 - c. Special education teachers who serve primarily students with emotional disturbances | | | |
 - d. Other special education teachers | | | |
- NUMBER
17. Of the job openings in #16 that were vacant or temporarily filled by a substitute because suitable candidates could not be found, number that were for special education teachers qualified to work with Limited English Proficient students | | | |
NUMBER
18. In a typical week in 1999-2000, the number of person days of substitute teaching used by your agency for all special education teachers | | | |
NUMBER
19. Around October 1, 1999, number of job openings for related service providers that were vacant or were temporarily filled by a substitute because suitable candidates could not be found
- a. Speech-language pathologists | | | |
 - b. Physical therapists | | | |
 - c. Occupational therapists | | | |
 - d. School psychologists | | | |
 - e. Sign language interpreters | | | |
- NUMBER

20. Number of special education teachers dismissed in 1998-99
- a. Teachers with 3 or less years of experience |__|__|__|
- b. Teachers with more than 3 years of experience |__|__|__|
- NUMBER
21. Lowest and highest annual salaries paid to full-time special education teachers \$ _____
- Lowest Annual Salary
- \$ _____
- Highest Annual Salary
22. In 1999-2000, percentage of special education teachers who received some merit pay increase |__|__|__|
- PERCENT
23. For those in #22 who received a merit increase, the average percentage |__|__|__|
- PERCENT
24. Percentage of special education teachers with tenure or its equivalent |__|__|__|
- PERCENT

DISTRICT ADMINISTRATOR PRESURVEY

PLEASE REVIEW BEFORE SPeNSE INTERVIEW

The sheet is being provided to help facilitate the SPeNSE telephone interview. Throughout the interview there are some questions about your recruitment, hiring practices, and compensation that are sufficiently detailed, we thought you might need to look up responses ahead of time. The questions below are part of the telephone interview, although questions that do not pertain to your district will be skipped in the actual interview. The interview will proceed more smoothly if you familiarize yourself with these data and have the completed sheet with you during the interview. If exact figures are unavailable, please estimate. Thank you for your help with this important study. **DO NOT RETURN THIS SHEET – IT IS FOR YOUR PURPOSES ONLY.**

1. Percentage of special education teachers employed in 1999-2000 in each racial/ethnic group
 - a. American Indian or Alaska Native? | | | |
 - b. Asian?..... | | | |
 - c. Black or African American? | | | |
 - d. Hispanic or Latino? | | | |
 - e. Native Hawaiian or Other Pacific Islander?..... | | | |
 - f. White?..... | | | |

= 100%

2. Number of full-time equivalent special education teachers employed or contracted for the 1999-2000 school year who were qualified to work with Limited English Proficient students | | | |
NUMBER

3. Number of full-time equivalent related service providers employed or contracted to work with students with disabilities for the 1999-2000 school year
 - a. Physical therapists?..... | | | |
 - b. Occupational therapists:? | | | |
 - c. School psychologists? | | | |
 - d. Sign language interpreters? | | | |NUMBER

4. Since the end of the 1998-99 school year, number of job openings in each of the following positions
 - a. Special education teachers who serve primarily children with disabilities ages 3-5..... | | | |
 - b. Special education teachers who serve primarily students with visual or hearing impairments | | | |
 - c. Special education teachers who serve primarily students with emotional disturbances | | | |
 - d. Other special education teachers | | | |NUMBER

5. Of the job openings in #4a-d, number that required special education teachers qualified to work with Limited English Proficient students | | | |
NUMBER

6. Since the end of the 1998-99 school year, number of job openings in each of the following positions
- a. Speech-language pathologists
 - b. Physical therapists.....
 - c. Occupational therapists
 - d. School psychologists
 - e. Sign language interpreters
- NUMBER
7. Of the job openings in #4a-d and #6a-e, number that resulted from staff turnover (Include retirements, people leaving special education, or people taking positions in private schools or other districts or agencies, NOT transfers within your district except for special education teachers who transferred to non-special education positions)
- NUMBER
8. Number of classes for which your district sought class size waivers in 1999-2000 (if applicable)
- a. Classes for children with disabilities ages 3-5.....
 - b. Classes for students with visual or hearing impairments
 - c. Classes for students with emotional disturbances
 - d. Classes for other special education students.....
- NUMBER
9. Of the classes in #8 for which your district sought class size waivers, number that were for classes for Limited English Proficient students (if applicable).....
- NUMBER
10. Number of personnel for whom your district sought caseload waivers in 1999-2000 (if applicable)
- a. Special education teachers who serve primarily children with disabilities ages 3-5
 - b. Special education teachers who serve primarily students with visual or hearing impairments
 - c. Special education teachers who serve primarily students with emotional disturbances.....
 - d. Other special education teachers.....
 - e. Speech-language pathologists
 - f. Physical therapists.....
 - g. Occupational therapists
 - h. Sign language interpreters
- NUMBER
11. Of the personnel in #10 for whom your district sought caseload waivers, number that were for special education teachers qualified to work with Limited English Proficient students
- NUMBER
12. Number of special education teachers hired between the end of the 1998-99 school year and October 1, 1999
- a. Teachers who serve primarily children with disabilities ages 3-5.....
 - b. Teachers who serve primarily students with visual or hearing impairments
 - c. Teachers who serve primarily students with emotional disturbances
 - d. Other special education teachers.....
- NUMBER

13. Percentage of newly hired special education teachers in #12 in each racial/ethnic group
- a. American Indian or Alaska Native? | | | |
 - b. Asian? | | | |
 - c. Black or African American? | | | |
 - d. Hispanic or Latino? | | | |
 - e. Native Hawaiian or Other Pacific Islander? | | | |
 - f. White? | | | |
- = 100%
14. Of newly hired special education teachers in #12, number qualified to work with Limited English Proficient students | | | |
NUMBER
15. Number of related service providers hired between the end of the 1998-99 school year and October 1, 1999
- a. Speech-language pathologists | | | |
 - b. Physical therapists | | | |
 - c. Occupational therapists | | | |
 - d. School psychologists | | | |
 - e. Sign language interpreters | | | |
 - f. Special education paraprofessionals | | | |
- NUMBER
16. Around October 1, 1999, number of job openings for special education teachers that were vacant or were temporarily filled by a substitute because suitable candidates could not be found
- a. Special education teachers who serve primarily children with disabilities ages 3-5 | | | |
 - b. Special education teachers who serve primarily students with visual or hearing impairments | | | |
 - c. Special education teachers who serve primarily students with emotional disturbances | | | |
 - d. Other special education teachers | | | |
- NUMBER
17. Of the job openings in #16 that were vacant or temporarily filled by a substitute because suitable candidates could not be found, number that were for special education teachers qualified to work with Limited English Proficient students | | | |
NUMBER
18. In a typical week in 1999-2000, the number of person days of substitute teaching used by your district for all special education teachers | | | |
NUMBER
19. Around October 1, 1999, number of job openings for related service providers that were vacant or were temporarily filled by a substitute because suitable candidates could not be found
- a. Speech-language pathologists | | | |
 - b. Physical therapists | | | |
 - c. Occupational therapists | | | |
 - d. School psychologists | | | |
 - e. Sign language interpreters | | | |
- NUMBER

20. Number of special education teachers dismissed in 1998-99
- a. Teachers with 3 or less years of experience |__|__|__|
- b. Teachers with more than 3 years of experience |__|__|__|
- NUMBER
21. Lowest and highest annual salaries paid to full-time special education teachers \$ _____
- Lowest Annual Salary
- \$ _____
- Highest Annual Salary
22. In 1999-2000, percentage of special education teachers who received some merit pay increase |__|__|__|
- PERCENT
23. For those in #22 who received a merit increase, the average percentage |__|__|__|
- PERCENT
24. Percentage of special education teachers with tenure or its equivalent |__|__|__|
- PERCENT
25. Percentage of non-special education teachers with tenure or its equivalent |__|__|__|
- PERCENT

STATE SCHOOL ADMINISTRATOR PRESURVEY

PLEASE REVIEW BEFORE SPeNSE INTERVIEW

The sheet is being provided to help facilitate the SPeNSE telephone interview. Throughout the interview there are some questions about your recruitment, hiring practices, and compensation that are sufficiently detailed, we thought you might need to look up responses ahead of time. The questions below are part of the telephone interview, although questions that do not pertain to your school will be skipped in the actual interview. The interview will proceed more smoothly if you familiarize yourself with these data and have the completed sheet with you during the interview. If exact figures are unavailable, please estimate. Thank you for your help with this important study. **DO NOT RETURN THIS SHEET – IT IS FOR YOUR PURPOSES ONLY.**

1. Percentage of special education teachers employed in 1999-2000 in each racial/ethnic group
 - a. American Indian or Alaska Native? | | | |
 - b. Asian? | | | |
 - c. Black or African American? | | | |
 - d. Hispanic or Latino? | | | |
 - e. Native Hawaiian or Other Pacific Islander? | | | |
 - f. White? | | | |

= 100%

2. Number of full-time equivalent special education teachers employed or contracted for the 1999-2000 school year who were qualified to work with Limited English Proficient students | | | |
NUMBER

3. Number of full-time equivalent related service providers employed or contracted to work with students with disabilities for the 1999-2000 school year
 - a. Physical therapists? | | | |
 - b. Occupational therapists? | | | |
 - c. School psychologists? | | | |
 - d. Sign language interpreters? | | | |NUMBER

4. Since the end of the 1998-99 school year, number of job openings in each of the following positions
 - a. Special education teachers who serve primarily children with disabilities ages 3-5 | | | |
 - b. Special education teachers who serve primarily students with visual or hearing impairments | | | |
 - c. Special education teachers who serve primarily students with emotional disturbances | | | |
 - d. Other special education teachers | | | |NUMBER

5. Of the job openings in #4a-d, number that required special education teachers qualified to work with Limited English Proficient students | | | |
NUMBER

6. Since the end of the 1998-99 school year, number of job openings in each of the following positions
- a. Speech-language pathologists
 - b. Physical therapists.....
 - c. Occupational therapists
 - d. School psychologists
 - e. Sign language interpreters
- NUMBER
7. Of the job openings in #4a-d and #6a-e, number that resulted from staff turnover (Include retirements, people leaving special education, or people taking positions in private schools or other districts or agencies, NOT transfers within your district except for special education teachers who transferred to non-special education positions)
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- a. Classes for children with disabilities ages 3-5.....
 - b. Classes for students with visual or hearing impairments
 - c. Classes for students with emotional disturbances
 - d. Classes for other special education students.....
- NUMBER
9. Of the classes in #8 for which your school sought class size waivers, number that were for classes for Limited English Proficient students (if applicable).....
- NUMBER
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- a. Special education teachers who serve primarily children with disabilities ages 3-5
 - b. Special education teachers who serve primarily students with visual or hearing impairments
 - c. Special education teachers who serve primarily students with emotional disturbances.....
 - d. Other special education teachers.....
 - e. Speech-language pathologists
 - f. Physical therapists.....
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 - h. Sign language interpreters
- NUMBER
11. Of the personnel in #10 for whom your school sought caseload waivers, number that were for special education teachers qualified to work with Limited English Proficient students
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 - c. Teachers who serve primarily students with emotional disturbances
 - d. Other special education teachers.....
- NUMBER

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- a. American Indian or Alaska Native? | | | |
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 - c. Black or African American? | | | |
 - d. Hispanic or Latino? | | | |
 - e. Native Hawaiian or Other Pacific Islander? | | | |
 - f. White? | | | |
- = 100%
14. Of newly hired special education teachers in #12, number qualified to work with Limited English Proficient students | | | |
NUMBER
15. Number of related service providers hired between the end of the 1998-99 school year and October 1, 1999
- a. Speech-language pathologists | | | |
 - b. Physical therapists | | | |
 - c. Occupational therapists | | | |
 - d. School psychologists | | | |
 - e. Sign language interpreters | | | |
 - f. Special education paraprofessionals | | | |
- NUMBER
16. Around October 1, 1999, number of job openings for special education teachers that were vacant or were temporarily filled by a substitute because suitable candidates could not be found
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 - c. Special education teachers who serve primarily students with emotional disturbances | | | |
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 - d. School psychologists | | | |
 - e. Sign language interpreters | | | |
- NUMBER

20. Number of special education teachers dismissed in 1998-99
- a. Teachers with 3 or less years of experience |__|__|__|
- b. Teachers with more than 3 years of experience |__|__|__|
- NUMBER
21. Lowest and highest annual salaries paid to full-time special education teachers \$ _____
- Lowest Annual Salary
- \$ _____
- Highest Annual Salary
22. In 1999-2000, percentage of special education teachers who received some merit pay increase |__|__|__|
- PERCENT
23. For those in #22 who received a merit increase, the average percentage |__|__|__|
- PERCENT
24. Percentage of special education teachers with tenure or its equivalent |__|__|__|
- PERCENT

Appendix D

Coding for Other, Specify Responses

Coding for Other, Specify Responses

At the top, center of each page is the item number from the SPeNSE instruments on which the *other specify* occurred. Questions starting with ‘M’ are on the administrator survey, and those starting with ‘S’ are on the service provider survey.

Not all answers given by respondents could be recoded properly into one of the existing or new variables. In these cases they were left as outliers.

MB8OV

- Added 3 variables
 - OWEBSITE – Agency posts openings on the Internet or uses list serves or e-mail lists to inform potential applicants of the available positions.
 - OSTATDOE – Agency works with their State Department of Education and/or uses the State Department’s resources to fill available positions.
 - OJOBFAIR – Agency attends job fairs to recruit new applicants.

- There were also a few responses that did not apply to the question (such as the use of signing bonuses or tuition reimbursement); these were eliminated.

Comment	Leave	Recode
Attending meetings		MCONTORG
Civil Service list	X	
College fairs		MCONTUNV
Contacting special organizations		MCONTORG
County/Regional office of education	X	
Head hunters	X	
Host site practicum	X	
Intern programs with local universities		MCONTUNV
Job Interview	X	
Letters on file	X	
Local job hot line	X	
Local newspapers		MADVLOCL
Local TV/Cable	X	
Mailings	X	
NAACP	X	
Networking		MCONTORG
Postings in school buildings		MCONTOTH
Professional journals		MADVNATL
Radio	X	
Recruit from within	X	
State publications		MADVLOCL
Telephone solicitation	X	
University newsletters		MCONTUNV
Word of mouth	X	

MB10

- This question was an open-ended question. To accommodate the answers given, ten new variables were created.
 - OMADNATL – Agency advertises nationally to recruit minorities.
 - OMADLOCL – Agency advertises locally to recruit minorities.
 - OMCNTORG – Agency contacts organizations, particularly teacher organizations and minority organizations, to recruit minorities.
 - OMCNTOTH – Agency contacts educators, other schools, or other agencies to recruit minorities.
 - OMCNTUNV – Agency contacts colleges and universities (particularly those with large minority populations) to recruit minorities.
 - OMJBFAIR – Agency attends job fairs to recruit minorities.
 - OMSTDOE – Agency works with their State Department of Education or uses their resources to help recruit minorities.
 - OMWEBSIT – Agency uses the Internet, list serves, and/or e-mail lists to recruit minorities.
 - OMMINREC – Agency uses minorities in the recruiting process.
 - OMTRPARA – Agency trains minority paraprofessionals to become teachers through mentoring and internal training programs.

- There were also a few responses that did not apply to the question (such as the use of signing bonuses or tuition reimbursement); these were eliminated.

- Items were recoded or left as outliers for MB10 as they were in MB8OV (see above chart).

MD10V

- Added 3 variables
 - OEXPRNC – When considering applicants for hire, administrators look at prior experience and/or professional background.
 - OREFRNC – When considering applicants for hire, administrators look at references, recommendations, and/or referrals.
 - OACDMIC – When considering applicants for hire, administrators look at academic performance.

- There were also a number of responses that did not apply to the question (such as characteristics like positive attitude and ability to excel in team situations); these were eliminated.

Comment	Leave	Recode
Background checks	X	
Clinical internships		OEXPRNC
Credit hours	X	
Degrees	X	
Endorsements		MEMRCERT
Interviews	X	
Multiple certification	X	
National certification		MPRAXIS
RICA/CLAD		MSKILLS
SCPI		MSTTEST
Special skills	X	
Training	X	
Writing/Communication skills	X	

ME90V

- Added 1 variable
 - OFRINGE – Using fringe benefits, such as health insurance, professional development opportunities, technology availability, and supplemental days, as incentives.

- There were also a few responses that did not apply to the question (such as workplace environment); these were eliminated.

Comment	Leave	Recode
Commendations	X	
Higher salary		MHIRSTEP
Mentoring	X	
Moving allotment		MBONUS
Percent increase in salary		MBONUS
Shared decision making	X	
Signing bonus		MBONUS
Stipend		MBONUS
Tuition Reimbursement	X	

SA240V

- No new variables were added to this question.
- If there was a question as to who employed a provider, we consulted whom we had listed as their employer and saw if it was consistent with their answer and often went with our original assumption. This was most likely the case when an Intermediate Education Unit employed the provider.

Comment	Leave	Recode
County office		2
State School for VI/HI		4

SC40V

- Added 6 variables
 - OEXTRACR – Time spent supervising/organizing extracurricular activities or any after school activities.
 - OCOMMUTE – Time itinerant teachers spend commuting to and from service locations.
 - ONIGHTCL – Time spent teaching night classes or special classes for teachers and/or parents.
 - OADMINDU – Time spent doing administrative duties.
 - OTECH – Time spent using/fixing/installing computers or other technology equipment.
 - OHOMEVIS – Time spent doing home visits or homebound work.

Comment	Leave	Recode
ARD		SIEPMEET
Case coordination		OADMINDU
Chairman for senior projects		SHRSTCH
Child study team		SIEPMEET
Cleaning classroom		SDUTIES
Clerical work/office work		SPAPERWK
Community work	X	
Consultant for another education program		SINDIRCT
Covering others' classes		SHRSTCH
Day treatment	X	
Department chair duties		OADMINDU
Discipline		SDUTIES
Doing laundry		SDUTIES
Driving students to doctor		SDUTIES
Environmental design	X	
Evaluating new students		SPAPERWK
Evaluation and placement testing		STESTS
Facilitating classroom environment		SDUTIES
Interpreting	X	
Job fairs	X	
Mentoring teachers		SINDIRCT
Mentoring students		SCOUNSEL
Observing classes		SINDIRCT
Officer in professional organization		OADMINDU
Ordering/making/modifying materials		SPREPARE
Organizing classroom		SDUTIES
Peer group	X	
Preparing for meetings		SPREPARE
Preparing for programs		SPREPARE
Previewing software		SPREPARE
Referral team		SIEPMEET
Research for students		SHRSTCH
Research related to teaching		SREADBG
Resource time		SHRSTCH

Comment	Leave	Recode
Running errands		SDUTIES
Scheduling		SPREPARE
Screening		STESTS
Security checks		SDUTIES
Seeking resource information for parents		SCOMMPAR
Sharing expertise with administrators		SINDIRECT
Staff development/Inservice		SSCHLMTG
Staffing		SADMINDU
Study groups		STUTORNG
Supervising a secretary	X	
Taking classes	X	
Teacher/Parent support team		SIEPMEET
Technology support/computer lab		SHRSTCH
Training paraprofessionals		SSUPPARA
Training student teachers		SSUPPARA
Updating bulletin boards		SDUTIES
Watching students before or after school		SDUTIES
Working in book store/school store		SDUTIES
Working on grants	X	
Working on IEPs		SPAPERWK
Working toward a degree	X	
Working with student interns	X	
Workshops		SCHLMTG

SC50V

- Added 2 variables.
 - OPASUBS - for paraprofessionals who specified they spent time teaching or substituting their own class or other classes within the school
 - OPACLEAN - for paraprofessionals who specified that they spent time arranging and cleaning up their classrooms, did laundry, and washed dishes for their students

Comment	Leave	Recode
Secretarial duties, answering phones, typing, scribing, distributing newsletter		SPAFROMS
Escorting children from class to class, monitoring classroom and students, chaperone field trips		SPAMONTR
Job coaching, finding job sites for students	X	
Miscellaneous tasks that were not specified	X	
Bathroom help		SPACARE
Emotional support	X	
Talk with students	X	
Lesson plans		SPAPREP
Buying materials	X	
Coordinating volunteers	X	
Solicit donations and fund raising	X	
Driving the bus		SPABUS
Serving breakfast in classrooms	X	
Counseling	X	
Assistive technology	X	
Mandate high school driving permits	X	
Running computer lab	X	
Special Olympics	X	
Developing database	X	
Traveling	X	
Helping general ed. students with behavior coping problems	X	
Computer repairs	X	

SC110V

- Added 4 variables
 - OGEMODCR – When general education teachers have students with IEPs in their class, these students can receive a modified curriculum.
 - OGEMODIN – When general education teachers have students with IEPs in their class, these students can receive modified instructional techniques.
 - OGEPEER – When general education teachers have students with IEPs in their class, these students can receive peer assistance.
 - OGEPROFA – When general education teachers have students with IEPs in their class, these students can receive assistance from other professionals.

Comment	Leave	Recode
Abbreviated workload		OGEMODCR
Changes to classroom		SGEACCOM
Computer software		SGEACCOM
Curriculum compacting		OGEMODCR
Extra help during recess		OGEMODIN
Modified grading		OGEMODCR
More demonstrations		OGEMODCR
Parent help/training	X	
Regular pull-out or one-to-one sessions		OGEMODIN
Repeating instruction in different ways		OGEMODCR
Use of sign language interpreters		SGEASIST
Use of special technology		OGEMODIN

SD20V

- Added no new variables.

Comment	Leave	Recode
ADHD/ADD		SOTHHNUM
APH	X	
Asperger Syndrome		SAUTINUM
At Risk		SDDNUM
Borjensen Syndrome		SMRNUM
Central Auditory Processing Disorder		SSPLGNUM
Cerebral Palsy		SORTHNUM
Cognitively Delayed		SDDNUM if <age 9, SMRNUM if >age 9
Congenital Dysmorphia	X	
Cry of the Cat		SMRNUM
Developmental Delay (students over age 9)		SMRNUM
DH/Developmentally Handicapped		SDDNUM if <age 9, SMRNUM if >age 9
Discrepancy/Ability and Written Skills Disorder		SLDNUM
Downs Syndrome		SMRNUM
Drug Exposed		SOTHHNUM
Early Childhood/Noncategorical Early Childhood		SDDNUM
Educable Mentally Handicapped		SMRNUM
Eligible/Entitled Individuals/Learners	X	
ESL	X	
Exceptional Child	X	
Fetal Alcohol		SOTHHNUM
Fragile X		SMRNUM
Functionally Mentally Delayed		SMRNUM
Genetic Abnormality	X	
Gifted	X	
HDL		SLDNUM
IFSPs		SDDNUM
Incogniatia-Pigmenta Genetic Problem		SOTHHNUM
Klefner Syndrome		SSPLGNUM
Lennox-Gastaut Syndrome		SMUTPNUM
Mildly Mentally Impaired/Handicapped		SMRNUM
Moderately Impaired/Mentally Disabled		SMRNUM
MS		SOTHHNUM
Multiple Osteochondroma		SORTHNUM
Muscular Dystrophy		SOTHHNUM
Neurologically Impaired		SLDNUM
Noncategorical	X	
Oppositional Defiant Disorder		SEDNUM
PDA		SOTHHNUM
PDD		SAUTINUM
Perceptually Impaired		SLDNUM
Prader Willy		SMRNUM
Preprimary Impaired/Preschool Disabled		SDDNUM

Comment	Leave	Recode
Premature Babies	X	
Profound and Severe/Severely Disabled/Handicapped		SMUTPNUM
Sensory Disability/Sensory Integration	X	
Slower Learners	X	
SPH		SMUTPNUM
Spina Bifida		SORTHNUM
Tourette's Syndrome		SOTHHNUM
Trainable Mentally Handicapped		SMRNUM
Trauma		STBINUM
Transitional IEP	X	
Tuberculosis Sclerosis		SOTHHNUM
Turners Syndrome		SOTHHNUM
Williams Syndrome		SLDNUM

SD30V

- Added 3 variables
 - OCLEFNUM - for individuals with cleft palate, cleft lip and palate, oral cleft, oral facial anomaly, or craniofacial anomaly
 - ODYSPNUM - for individuals with dysphagia, swallowing problems, and/or feeding problems
 - OMOSDNUM - for individuals with motor speech disorders other than dysarthria or apraxia. Includes responses such as oral-motor delay/disorder, motor disorders, motor involvement, and facial paralysis

Comment	Leave	Recode
Trach		SVOICNUM
Rapid Rate		SFLUNUM
Developmental Delay		SLANGNUM
Mental Retardation		SLANGNUM
Rett Syndrome	X	
Visual Disorder	X	
Landau-Kleffner		SAUSPNUM
Neurofibromatosis	X	
Tourette Syndrome	X	
None	X, if total #s are less than IEP#	0 for SSPLONUM, if total SD3# agrees or exceeds IEP#
Central Auditory Processing		SLANGNUM
Auditory Processing		SLANGNUM
Pierre Robin	X	
Fragile X	X	
Cleft Palate, Cleft lip and palate, oral clefting, oral facial anomaly, craniofacial anomaly		OCLEFNUM
Motor problems, oral motor, facial paralysis		OMOSDNUM
Down Syndrome		OMOSDNUM & SLANGNUM
Cerebral Palsy		SDYSANUM & SAPRXNUM
Dysphagia, swallowing problems, feeding problems		ODYSPNUM
Pragmatics		SLANGNUM
Communication Board, AAC		SNSPKNUM
Williams Syndrome		SLANGNUM
Asperger Syndrome		SAUSPNUM
Childhood Aphasia		SLANGNUM
Selective Mutism		SNSPKNUM
Elective Mutism		SNSPKNUM
Mutism		SNSPKNUM
Cognitive Delay		SLANGNUM
Ear infections		SHEARNUM

Comment	Leave	Recode
Fetal Alcohol Syndrome	X	
Hyperlexia		SAUSPNUM
Cornelia deLange		SLANGNUM
Unintelligibility		SMYONUM
Processing Problems		SLANGNUM
Tongue Thrust		SMYONUM
Limited English Proficiency		SSPLONUM =0

SD80V

- Added 2 variables
 - OCOMMVIS – When communicating with students with hearing impairments, providers use visual techniques/pictures.
 - OCOMMTCH – When communicating with students with hearing impairments, providers use touch/texture.

- Many respondents mentioned “gestures” in addition to other techniques. This was considered a part of the other techniques/methods they mentioned and not kept as a distinct category.

Comment	Leave	Recode
Acting out	X	
Alpha talker	X	
Altering classroom acoustics		SCOMMHI3
Amplification		SCOMMHI3
Articulation therapy	X	
Assistive devices	X	
Auditory cues		SCOMMHI3
Auditory systems		SCOMMHI3
Auditory trainer		SCOMMHI3
Augmentative communication	X	
Body language	X	
Body sign		OCOMMTCH
Braille		SCOMMHI4
Calendar boxes	X	
Cheap talk	X	
Communication board	X	
Communication devices	X	
Comprehensible input	X	
Computer	X	
Conceptually accurate signed English (CASE)		SCOMMHI5
Demonstrations		SCOMMVIS
Drawing		SCOMMVIS
EASY trainer	X	
Facial expressions	X	
Fans	X	
Finger spelling		SCOMMHI7
FM systems		SCOMMHI3
Hearing aid		SCOMMHI3
Holly.com		SCOMMVIS
Insight	X	
Interpreters		SCOMMHI3
Lip reading		SCOMMHI3
Machine coded speech	X	
Modeling instruction	X	
Modified sign language		SCOMMHI5
Multi sensory		SCOMMHI2

Comment	Leave	Recode
Mayer-Johnson symbols		SCOMMVIS
Note takers		SCOMMHI4
Object cues		SCOMMTCH
Pantomime	X	
Picture exchange system (PECS)		SCOMMVIS
Pidgin sign language (PSE)		SCOMMHI5
Proximate control	X	
Role play	X	
Signing labels		SCOMMHI5
Simultaneous communication		SCOMMHI2
Speech reading		SCOMMHI3
Tactile sign		SCOMMTCH
Tape recorder with headset		SCOMMHI3
Teach systems	X	
Use of deaf specialist	X	
Vibration		SCOMMTCH
Visual phonics		SCOMMVIS
Whole word sign		SCOMMHI5

SD8_5

- Added 2 response categories
 - 13 – Visual/pictures
 - 14 – Touch/texture
- If a respondent's answers for SD8 could be recoded as either SCOMMVIS or SCOMMTCH, the above two response categories became options in question SD8_5, which asked which method mentioned in SD8 was the method they used most frequently to communicate with students with hearing impairments.

SD12

- Added 2 variables
 - OVISUAL – Used to record how fluent respondents felt they were in the use of visual methods with students with hearing impairments.
 - OTOUCH – Used to record how fluent respondents felt they were in the use of textural methods with students with hearing impairments.
- If a respondent's answers for SD8 could be recoded as either SCOMMVIS or SCOMMTCH, the above two variables became options in question SD12, which asked how fluent each respondent was in using the methods mentioned in SD8 to communicate with students with hearing impairments.

SE90V

- Added no new response categories.

Comment	Leave	Recode
Working toward more than second or third Master's degree		SOTHDEGR= 4 (second Master's degree)
Providers who indicated they received or were seeking a certificate in any given area (reading, counseling, sign language, health, special education, teaching, emotionally disturbed and handicapped, learning disabilities, early childhood, deaf or hard of hearing, behavior disorders, clinical competence, gifted students, resource, and technology)		SOTHDEGR= 5 (Certificate of Advanced Study)
Nursing Certificate		SOTHDEGR= 5 (Certificate of Advanced Study)
Paralegal Certificate		SOTHDEGR= 5 (Certificate of Advanced Study)
Administrative Degree, Certified Administrators		SOTHDEGR= 6 (Education Specialist Degree)
Providers who specified that they were seeking or had specialist degrees in Braille, behavior disorders, leadership, orientation and mobility, reading and resource)		SOTHDEGR= 6 (Education Specialist Degree)
Curriculum Specialist		SOTHDEGR= 6 (Education Specialist Degree)
Certification of Special School Principalship		SOTHDEGR= 6 (Education Specialist Degree)
National Board Certification		SOTHDEGR= 6 (Education Specialist Degree)
Providers who indicated a field of study but did not specify to which degree or certification they received or were seeking	X	
Providers who specified endorsements, add-ons, credentials, ranks and additional hours to their degree		were treated as though the question was not asked to them SOTHDEGR= -1 SHAVOTH=2

SE100V

- Added one response category.
 - 16 - Secondary Education (Grades 7th-12th)
- We used a hierarchy and coded 4, special education, above subject or grade (e.g. preschool special education, coded 4; adaptive P.E., coded 4)
- If more than one subject was listed, the code was based on the first subject.
- If a respondent had 0 hours teaching, his or her MAINRSLT was coded IP, an ineligible provider.

Comment	Leave	Recode
Family and Consumer Science		SMAINASG=5 (Social Studies)
Home Economics		SMAINASG=5 (Social Studies)
Business/Economics/Accounting		SMAINASG=5 (Social Studies)
Media Specialist	X (w/ hrs tch)	
Resource/Title I		SMAINASG=13(Basic Skills/Remedial Education)
Individual Therapy and Teacher Consultation	X (w/ hrs tch)	
Diagnostician	X (w/ hrs tch)	
Exceptional Education Coordinator	X (w/ hrs tch)	
School Psychology	X (w/ hrs tch)	
Psychotherapist/Counseling	X (w/ hrs tch)	
Teach all subjects	X	
American Sign Language	X (gen ed tchr)	
Alternative Education	X	
Paperwork	X	
SAIL Program	X	
Transition Coordinator	X (w/ hrs tch)	
Librarian	X (w/ hrs tch)	
Working with Pregnant and Parenting Teens		SMAINASG=16(Secondary Education)
Orientation and Mobility		SMAINASG=4(Special Education)
Interpreter	X (w/ hrs tch)	

SE180V

- Added 3 variables
 - OSECNDED – Teacher is certified to teach students in grades 7th to 12th, or to age 21 for special education
 - ODRIVEED – Teacher is certified to teach driver’s education
 - OGENED – Teacher is certified to teach students in general education. This variable was only used when the teacher specifically stated that he or she was certified in general education and/or to denote that the teacher was certified in both special education and general education.
- Because the question specifically pertained to teaching students, some types of certification were eliminated.
- Please note that because this question is a choose all that apply, analysts cannot assume that a teacher is certified for all subjects selected at all grade levels selected.

Ex. The following variables are marked yes: art, music, elementary education, and secondary education. Analysts will not be able to tell whether the teacher is certified for art and music for grades 1st through 12th or just art for elementary students and music for secondary students.

Comment	Leave	Recode
Administration/Supervising		Ignored
Adult Education/GED		Ignored
Anything	X	
Business/Economics/Accounting		SSOCSTDY
Certified Mentor Trainor	X	
Clinical Rehabilitation		Ignored
Guidance Counseling		Ignored
Home Economics		SSOCSTDY
Library Media		Ignored
Psychology		SSOCSTDY
RSP	X	
School Social Worker	X	
Substitute	X	

SE200V

- Added no new variables.

Comment	Leave	Recode
Providers who were not clear or did not specify for which aspects they were not certified	X	
Providers who specified a type or level of disability they were not fully certified to teach		SQUALSTU= 1
Providers who were waiting on paperwork or Praxis test scores to be certified	X	
Instruction and curriculum	X	
For providers who specified that they completed all state requirements.		So that they were never asked the question, set SQUALSTU= -1 SQUALSUB= -1 SQUALGRD= -1 SQUALSTA= -1 SQUALOTH= -1 SQUALCRT=1

SE240V

- Added no new variables.

Comment	Leave	Recode
Providers who were not clear or did not specify for which aspects they were not certified	X	
Providers who specified a particular subject they were not fully certified to teach even if they were not required to be (ex: tennis)		S2QUALSU= 1
Providers who specified particular ages they were not fully certified to teach		S2QUALGR= 1
Sign Language	X	
Classroom Instruction	X	
Homebound Teacher	X	
Providers who were waiting on paperwork to be fully certified	X	
Instruction and curriculum	X	

SE26OV

- Added 1 response category
 - 6 – Respondents earned or were pursuing their certification or licensure in their main assignment through a Ph.D. program.

Comment	Leave	Recode
Add on certification		5
Additional courses beyond a BA or MA		5
ARIZ Health Department certificate	X	
Braille through Library of Congress		5
Clinical Experience		Highest degree
Credential program		5
District internship		5
Early childhood AA Degree	X	
Endorsement	X	
Evaluation process over 3 years		5
Exit exam	X	
Grandfathered in		Highest degree
If they gave a subject area and degree matched		Highest degree
If they took courses just for certification and not degree		5
Level 2 program	X	
RISE (Recertification in Special Education)	X	
School petition	X	
Six year program		Highest degree
Staff development units		5
State program		5
Technical program		5
Through testing		Highest degree
UN Program		5
Validation through university		Highest degree
Waiting for test results		Highest degree

SF90V

- Added no new response categories.

Comment	Leave	Recode
Principal		SPRIMEVL=6(School Administrator)
Assistant Principal		SPRIMEVL=6(School Administrator)
Department Head		SPRIMEVL=6(School Administrator)
Special Education Director		SPRIMEVL=7(District Administrator)
Special Education Coordinator		SPRIMEVL=7(District Administrator)
Curriculum Director		SPRIMEVL=7(District Administrator)
School Psychologist	X	
Director of College Programs	X	
Secretary	X	
Interpreter	X	
Multineeds Facilitator	X	
Team Leader	X	

Appendix E

Study of Overestimation of the Variance Estimator

The Study on the Overestimation of the Variance Estimator

This appendix is to describe the replication weighting procedure to obtain a correct variance estimator for the SPeNSE provider data by properly incorporating the finite population correction (fpc). We also provide some study results that compare the correct variance estimator studied in this appendix and the currently implemented variance estimator that is based on the with-replacement sampling assumption.

The jackknife replicate weights used here reflect the first and second-phase sampling. The replicate weights should be calculated externally since the Westat Weighting Macros and WesVar cannot handle this problem in their current forms. This appendix describes the main steps of creating the replication weights up to the second-phase nonresponse adjustment, which is not discussed here although the comparison of two variance estimates (the correct and the current) is based on the weights that reflect the nonresponse adjustment as well as poststratification. The latter weighting procedures do not require any special treatment because they can be done in a straightforward manner by using the COLL_ADJ weighting macro or WesVar once the replicate weights for the two-phase sample are created as described here.

SPeNSE Sample Design

The SPeNSE sample design is a two-phase design where the first-phase sample was selected by the stratified simple random sampling of agencies (clusters) and the second-phase sample was selected from the service provider pool assembled from selected agencies. There are 35 first-phase strata. Participating agencies from the first-phase sample thus provided rosters of service providers by personnel type. The roster pool is stratified by personnel type within each first-phase stratum and a simple random sample of providers was selected from each stratum. Thus, the second-phase sampling is also the stratified simple random sampling of the providers and the ultimate sampling unit is the service provider.

Jackknife Replication Weighting

To discuss the weighting procedure in detail, some notation is introduced below:

- N_h : the population size of clusters of stratum h , $h = 1, 2, 3, \dots, 35$;
 n_h : the cluster sample size for stratum h ;
 f_{h1} : the first-phase sampling fraction for stratum h , i.e., $f_{h1} = n_h/N_h$;
 w_{hij} : the first-phase weight of provider j of cluster i in stratum h ($w_{hij} = n_h^{-1}N_h$); y_{hij} :
the value of survey variable y for provider j in cluster (hi);
 $y_{hi} = \sum_j y_{hij}$: the cluster total of y for providers in cluster (hi); and
 $\bar{y}_h = n_h^{-1} \sum_{i=1}^{n_h} y_{hi}$: the stratum mean of cluster total y_{hi} in stratum h .

If there were no second-phase sampling of providers so that all the providers in the selected cluster were observed, then the total Y of the y -variable would be estimated by

$$\hat{Y}_1 = \sum_{h=1}^{35} \sum_{i=1}^{n_h} \sum_j w_{hij} y_{hij} = \sum_{h=1}^{35} \left(\sum_{(ij) \in U_h} w_{hij} y_{hij} \right). \quad (2)$$

where U_h is the set of indices of the providers selected as a first-phase sample in stratum h . Without loss of generality, we assume that the first n_h clusters are selected in stratum h . A correct variance estimator would be

$$v(\hat{Y}_1) = \sum_{h=1}^{35} \frac{1}{n_h} (1 - f_{h1}) \frac{1}{n_h - 1} \sum_{i=1}^{n_h} (y_{hi} - \bar{y}_h)^2. \quad (3)$$

One way of obtaining (3) is to use the JK_n option in WesVar as described in Memo SPeNSE-STAT01 by Hyunshik Lee (2001). Another way is to define the jackknife replicate by

$$\hat{Y}_1^{(st)} = \sum_{h=1}^{35} \left(\sum_{(ij) \in U_h} w_{hij}^{(st)} y_{hij} \right), \quad (4)$$

where

$$w_{hij}^{(st)} = \begin{cases} \delta_h w_{hij} & \text{if } h = s \text{ and } i = t \\ (n_h - 1)^{-1} (n_h - \delta_h) w_{hij} & \text{if } h = s \text{ and } i \neq t \\ w_{hij} & \text{if } h \neq s. \end{cases} \quad (5a)$$

with $\delta_h = 1 - \sqrt{(1 - f_{h1}) \frac{n_h - 1}{n_h}}$ for $i = 1, 2, \dots, n_h$, and $h = 1, 2, \dots, 35$. Then, we have

$$v(\hat{Y}_1) = \sum_{h=1}^{35} \sum_{j=1}^{n_h} (\hat{Y}_1^{(hj)} - \hat{Y}_1)^2 \quad (5b)$$

One advantage of using (5a) and (5b) instead of the JK_n option in WesVar is that there is no need to bring the JK_n factors and the fpc factors into WesVar since they are incorporated in the replicate weight (5a).

However, SPeNSE used a two-phase design with subsampling of providers at the second-phase. More pieces of notation are needed to formalize the second-phase weighting.

- G : the number of personnel type strata in stratum h ;
- A_{hg} : the set of providers in second-phase stratum g in stratum h for the second-phase sampling;
- a_{hg} : the second-phase sample of providers from A_{hg} ;
- M_{hg} : the size of A_{hg} ; and
- m_{hg} : the size of a_{hg} .

To estimate Y , two estimators are available. One is the double expansion estimator (DEE) and the other is the reweighted estimator (Kott and Stukel, 1997; Kim, Navarro, and Fuller, 2000) For the SPeNSE provider sample, the two estimators are identical. The reweighted estimator (REE) is given by

$$\begin{aligned}\hat{Y}_2 &= \sum_{h=1}^{35} \sum_{g=1}^G \left(\sum_{(ij) \in A_{hg}} w_{hij} \frac{\sum_{(ij) \in a_{hg}} w_{hij} \mathcal{Y}_{hij}}{\sum_{(ij) \in a_{hg}} w_{hij}} \right) \\ &=: \sum_{h=1}^{35} \sum_{g=1}^G \left(\sum_{(ij) \in a_{hg}} \gamma_{hij} \mathcal{Y}_{hij} \right).\end{aligned}\tag{6}$$

where for $(ij) \in a_{hg}$

$$\gamma_{hij} = \frac{\sum_{(ij) \in A_{hg}} w_{hij}}{\sum_{(ij) \in a_{hg}} w_{hij}} w_{hij} = \frac{M_{hg}}{m_{hg}} \frac{N_h}{n_h}\tag{7}$$

is the two-phase base weight. This is also the DEE weight because the first-phase sampling weights are the same within each stratum. The numerator $\sum_{(ij) \in A_{hg}} w_{hij}$ part in (7) is subject to the first-phase sampling variability only, but the denominator $\sum_{(ij) \in a_{hg}} w_{hij}$ is also subject to the second-phase sampling variability. The first-phase sampling variability comes from estimating the size of second-phase stratum. Within a particular second-phase stratum hg , the overall two-phase sampling design for the stratum is equivalent to the stratified random sample of size m_{hg} from the finite population of size $M_{hg} f_{h1}^{-1}$, where f_{h1} is the sampling rate for the first-phase sampling. The overall sampling rate of the two-phase sample is $f_{h1} f_{hg2}$ with $f_{hg2} = M_{hg}^{-1} m_{hg}$. Thus, the proposed replication method applies different replication weighting to the two weights resulting from the two phases of sampling in order to incorporate differential sampling rates.

The proposed jackknife variance estimator of this estimator is then given by

$$v_J(\hat{Y}_2) = \sum_{s=1}^{35} \left(\sum_{t=1}^{n_s} (\hat{Y}_2^{(st)} - \hat{Y}_2)^2 \right)\tag{8}$$

where $\hat{Y}_2^{(st)}$ is defined as

$$\begin{aligned}\hat{Y}_2^{(st)} &= \sum_{h=1}^{35} \sum_{g=1}^G \left(\sum_{(ij) \in A_{hg}} w_{hij}^{(st)} \frac{\sum_{(ij) \in a_{hg}} w_{hij,g}^{*(st)} y_{hij}}{\sum_{(ij) \in a_{hg}} w_{hij,g}^{*(st)}} \right) \\ &= \sum_{h=1}^{35} \sum_{g=1}^G \left(\sum_{(ij) \in a_{hg}} \gamma_{hij}^{(st)} y_{hij} \right),\end{aligned}\tag{9}$$

where $w_{hij}^{(st)}$ is defined in (5a) (called type I) and $w_{hij,g}^{*(st)}$ is called type II and defined by

$$w_{hij,g}^{*(st)} = \begin{cases} \delta_{hi,g} & \text{if } h = s \text{ and } i = t \\ \left(m_{sg} - m_{st,g}\right)^{-1} \left(m_{sg} - \delta_{hi,g} m_{st,g}\right) & \text{if } h = s \text{ and } i \neq t \\ 1 & \text{if } h \neq s, \end{cases}\tag{10}$$

with $m_{st,g}$ being the number of the second-phase sample units in (st) -th cluster and the g -th second-phase stratum, and

$$d_{hi,g} = 1 - \left(1 - f_{h1} f_{g2}\right)^{1/2} \left[1 + \sum_{i' \neq i} \left(\frac{m_{hi',g}}{m_{hg} - m_{hi',g}} \right)^2 \right]^{-1/2}.$$

Note that (10) is much more complex than (5a) because more than one unit can be deleted when a replicate is formed.

Further weight adjustment for nonresponse adjustment and/or poststratification can be performed in the usual way using the replicate weights $\gamma_{hgi}^{(st)}$.

Construction of the Replicate Weights Using SAS

To use the proposed method in WesVar, the replicate weight $\alpha_{h'gi}^{(st)}$ has to be calculated externally. A way of achieving this using SAS is described here. Two data files are needed: the first data set that contains the whole first-phase sample of providers and the second data set containing only the second-phase sample (the second data set is actually redundant since the first data set contains the second-phase sample but it is easier to explain with two separate data sets). Three major steps are involved as described in the following:

1. From the first data set, for replicate (st) , the $\sum_{(ij) \in A_{hg}} w_{hij}^{(st)}$ term is computed, which is the sum of the type I replicate weights $w_{hij}^{(st)}$ defined in (5a) over the whole first-phase sample for each second-phase stratum. This can be done using SAS procedures MEANS or SUMMARY.
2. From the second data set, the $\sum_{(ij) \in a_{hg}} w_{hij,g}^{*(st)}$ term, the sum of the type II replicate weights $w_{hij,g}^{*(st)}$ over the second-phase sample is similarly computed for each second-phase stratum as in Step 1.

3. For each second-phase sample provider in the second data set, to get the final replicate weight $\alpha_{hij}^{(st)}$, multiply

$$\text{the ratio } \left(\sum_{(ij) \in A_{hg}} w_{hij,g}^{*(st)} \right)^{-1} \sum_{(ij) \in A_{hg}} w_{hij}^{(st)} \text{ to the type II replicate weight } w_{hij,g}^{*(st)}.$$

When WesVar is run, as mentioned earlier, there is no need of using the JK_n factors and the fpc factors since they are already incorporated in the replicate weights. Therefore, when the data file with the replicate weights is loaded into WesVar, the JK2 option may be used since it uses the jackknife factor of one or the JK_n option with all factors defined as one.

Comparison of the Correct Variance Estimates With the Current Ones

The current variance estimator using the JK_n jackknife replication method overestimates the variance since it is based on the assumption of the with-replacement first-phase sampling. The overestimation problem was examined in Memo SPeNSE-STAT08 by Hyunshik Lee (2001) by comparing the current variance estimates for ten key variables with the ones obtained by applying the fpc naively, which gives the lower bound of the bias of the current variance estimator. It was found the overestimation was not serious overall, but the relative difference between the two variance estimates can be large at some subpopulation levels (e.g., size groups). Since the correct variance estimator for \hat{Y}_2 (it is actually unbiased but consistent for more general type of estimators) is now available as proposed here, the magnitude of the positive bias of the current variance estimator can be gauged more precisely.

The replicate weights calculated as described in the previous section are further adjusted for second-phase nonresponse and post-stratification in the same way as done in the current SPeNSE data file. The correct variance estimates are then calculated for the same ten key variables and compared in Tables 1 through 12. These tables show that the correct variance estimates are fairly close to the current. The relative difference (RELDIF) between the current and the correct is defined by

$$\text{RELDIF} = 100 \times \frac{\text{Current STD estimate} - \text{Correct STD estimate}}{\text{Current STD estimate}}.$$

The RELDIF is mostly less than 10 percent. However, the correct variance estimates can even be larger than the current due to randomness. It should be noted that the correctness of the proposed variance estimator is in expectation and, therefore, the variance estimators can cross each other for a given sample. This means that, although the current variance estimator overestimates the true variance in expectation, a particular estimate can be smaller than the correct one, which is correct in expectation. It is intriguing to see that this phenomenon happens more frequently at the regional subpopulation level (see Table 12).

There are only three cases with RELDIF over 20 percent, two of which have the cell size of 1 each. The other case has the cell size of 163, which occurred in Region 6 and Pertype 2 for the SHAVEMA variable (see Table 12). Considering the cell sample size, this is the only case with unusually large RELDIF.

Table 1. Comparison of standard errors with and without finite population correction (fpc) for the variable SOVERALL

PERTYPE	SOVERALL	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	870
1	2	0.58	0.28	0.26	7.86	48.09	44.31	1.18	1.00	737.2	868.5	6	870
1	3	12.26	2.96	2.49	15.92	24.13	20.29	7.08	5.01	122.9	173.8	97	870
1	4	66.90	3.58	3.27	8.60	5.35	4.89	5.04	4.21	172.6	206.6	573	870
1	5	20.25	2.50	2.37	5.17	12.33	11.69	3.36	3.02	259.2	288.1	194	870
2	1	0.04	0.05	0.04	26.92	121.16	87.54	0.66	0.34	1580.0	3026.5	1	1040
2	2	0.58	0.36	0.36	0.00	62.18	62.20	2.33	2.33	447.0	446.7	5	1040
2	3	15.88	3.45	3.25	5.83	21.72	20.45	9.26	8.21	112.3	126.6	136	1040
2	4	64.58	3.82	3.52	7.89	5.91	5.44	6.63	5.62	157.0	185.0	657	1040
2	5	18.92	2.27	1.95	14.43	12.02	10.28	3.50	2.56	296.8	405.6	241	1040
3	1	0.06	0.07	0.04	43.66	113.55	63.71	0.69	0.22	1245.6	3957.2	1	854
3	2	2.73	0.91	0.92	-0.66	33.38	33.60	2.67	2.70	320.2	316.1	15	854
3	3	19.90	1.97	1.93	1.68	9.89	9.72	2.07	2.01	411.8	426.0	173	854
3	4	58.12	2.18	2.03	6.57	3.75	3.50	1.66	1.45	513.5	588.3	496	854
3	5	19.19	1.92	1.80	6.35	10.02	9.38	2.03	1.79	419.9	478.4	169	854
4	1	0.02	0.02	0.03	-13.04	92.27	102.76	0.54	0.68	4731.1	3815.2	1	2575
4	2	1.13	0.26	0.25	6.06	23.33	21.85	1.61	1.41	1602.3	1827.2	30	2575
4	3	16.30	1.02	0.96	6.35	6.28	5.89	1.98	1.74	1301.1	1482.9	421	2575
4	4	62.17	1.56	1.54	1.03	2.51	2.48	2.66	2.61	967.3	987.2	1620	2575
4	5	20.37	1.52	1.45	4.41	7.46	7.13	3.67	3.35	702.3	768.2	503	2575
5	1	0.13	0.16	0.14	7.10	118.24	109.83	1.60	1.38	543.8	630.3	1	869
5	2	0.70	0.31	0.29	6.41	44.56	41.76	1.22	1.07	715.0	814.3	7	869
5	3	14.41	1.54	1.61	-4.94	10.66	11.19	1.66	1.83	522.2	474.1	118	869
5	4	69.38	1.83	1.88	-2.78	2.64	2.71	1.37	1.45	632.8	599.5	598	869
5	5	15.38	1.46	1.36	6.45	9.47	8.86	1.42	1.24	613.3	700.7	145	869
6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	887
6	2	1.19	0.43	0.40	7.89	36.26	33.43	1.40	1.19	633.1	744.5	10	887
6	3	11.20	1.22	1.22	0.00	10.87	10.87	1.32	1.32	671.0	670.6	99	887
6	4	53.60	1.85	1.86	-0.54	3.45	3.47	1.22	1.23	727.9	720.5	484	887
6	5	34.01	1.86	1.90	-1.72	5.48	5.58	1.37	1.42	645.8	624.1	294	887
7	1	0.16	0.20	0.17	11.73	119.54	105.91	1.99	1.56	426.8	543.7	1	847
7	2	0.58	0.27	0.27	0.74	47.15	46.69	1.09	1.07	774.2	789.7	5	847
7	3	15.86	1.67	1.56	6.81	10.55	9.84	1.78	1.54	476.3	548.4	135	847
7	4	61.76	2.09	1.98	5.21	3.39	3.21	1.57	1.41	539.1	599.8	528	847
7	5	21.64	2.17	2.09	3.37	10.01	9.67	2.34	2.19	361.7	387.5	178	847
MARGINAL	1	0.13	0.15	0.13	11.84	114.19	101.23	13.76	10.82	577.0	734.2	5	7942
MARGINAL	2	0.72	0.22	0.21	1.38	30.35	29.95	5.27	5.13	1506.5	1546.8	78	7942
MARGINAL	3	15.50	1.32	1.22	7.06	8.50	7.90	10.52	9.08	754.7	874.3	1179	7942
MARGINAL	4	61.23	1.64	1.56	4.94	2.68	2.55	9.01	8.14	881.8	975.3	4956	7942
MARGINAL	5	22.42	1.74	1.67	3.57	7.74	7.46	13.74	12.78	578.0	621.3	1724	7942
Average			1.45	1.37	6.08								

Table 2. Comparison of standard errors with and without finite population correction (fpc) for the variable SHAVEMA

PERTYPE	SHAVEMA	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	51.59	3.56	3.19	10.35	6.89	6.18	4.39	3.53	197.6	245.9	521	868
2	1	68.26	3.24	2.95	8.99	4.74	4.32	5.00	4.14	206.9	249.8	750	1034
3	1	53.19	3.13	2.96	5.59	5.89	5.56	3.36	2.99	253.6	284.5	443	851
4	1	59.92	1.40	1.36	3.01	2.33	2.26	2.08	1.96	1230.7	1307.6	1518	2561
5	1	86.76	1.55	1.52	2.32	1.79	1.75	1.82	1.74	476.4	499.1	755	866
6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	1	49.25	2.79	2.57	7.83	5.65	5.21	2.60	2.21	322.3	379.4	400	837
MARGINAL	1	51.29	2.42	2.22	8.16	4.71	4.33	16.38	13.82	428.5	507.7	4387	7017
Average			2.61	2.42	6.35								

Table 3. Comparison of standard errors with and without finite population correction (FPC) for the variable SQUALCRT

PERTYPE	SQUALCRT	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	95.09	1.54	1.32	14.59	1.62	1.39	4.30	3.13	196.3	269.2	806	843
2	1	97.45	0.88	0.82	6.29	0.90	0.84	3.11	2.73	325.1	370.3	986	1010
3	1	90.60	1.42	1.33	6.26	1.57	1.47	1.94	1.71	421.3	479.6	739	819
4	1	96.09	0.62	0.58	5.97	0.65	0.61	2.55	2.25	978.3	1107.1	2396	2496
5	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	1	98.59	0.49	0.46	4.92	0.50	0.47	1.40	1.27	581.3	644.4	804	815
MARGINAL	1	98.17	0.44	0.42	5.02	0.45	0.42	6.39	5.76	935.8	1038.5	5731	5983
Average			0.99	0.90	7.60								

Table 4. Comparison of standard errors with and without finite population correction (fpc) for the variable SQLTPSRV

PERTYPE	SQLTPSRV	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	1.58	0.57	0.54	5.93	36.27	34.16	1.80	1.60	474.0	534.1	18	855
1	2	13.70	1.93	1.84	4.86	14.11	13.42	2.70	2.45	316.4	349.8	112	855
1	3	33.83	3.94	3.47	11.87	11.65	10.27	5.93	4.61	144.1	185.4	260	855
1	4	39.59	3.07	2.78	9.58	7.76	7.01	3.37	2.75	253.7	310.4	342	855
1	5	11.30	1.80	1.67	7.12	15.91	14.77	2.76	2.38	310.0	359.6	123	855
2	1	4.21	2.86	2.71	5.04	67.89	64.46	20.67	18.63	49.4	54.8	24	1021
2	2	12.07	1.39	1.26	9.71	11.51	10.40	1.86	1.52	549.5	673.6	137	1021
2	3	31.14	2.78	2.60	6.41	8.92	8.35	3.67	3.22	278.0	317.4	317	1021
2	4	36.50	3.08	2.83	8.08	8.44	7.76	4.18	3.53	244.3	289.2	385	1021
2	5	16.09	2.44	2.05	15.94	15.18	12.76	4.51	3.19	226.5	320.4	158	1021
3	1	3.47	1.04	0.94	9.16	29.91	27.16	2.67	2.20	311.2	377.3	30	831
3	2	15.46	2.38	2.34	1.64	15.42	15.16	3.61	3.49	230.2	237.9	130	831
3	3	33.10	2.68	2.55	4.82	8.09	7.70	2.69	2.44	309.1	341.2	258	831
3	4	33.92	2.94	2.78	5.40	8.67	8.20	3.21	2.87	259.0	289.4	290	831
3	5	14.06	1.92	1.80	6.04	13.65	12.83	2.53	2.24	328.2	371.6	123	831
4	1	3.15	0.48	0.44	7.35	15.13	14.03	1.89	1.62	1344.9	1564.2	75	2537
4	2	15.20	1.08	1.06	2.22	7.11	6.96	2.30	2.20	1103.1	1153.5	390	2537
4	3	30.53	1.38	1.39	-0.51	4.53	4.56	2.29	2.32	1106.7	1096.1	779	2537
4	4	35.76	1.18	1.09	7.29	3.30	3.06	1.54	1.32	1651.8	1924.7	917	2537
4	5	15.36	1.01	0.99	1.97	6.59	6.46	2.00	1.92	1267.2	1319.7	376	2537
5	1	0.29	0.31	0.27	15.29	107.29	90.81	2.86	2.05	295.6	412.6	2	844
5	2	10.15	1.56	1.35	13.62	15.34	13.25	2.24	1.67	376.2	504.3	80	844
5	3	26.67	2.29	2.24	2.01	8.57	8.40	2.26	2.17	374.3	389.6	220	844
5	4	45.34	2.55	2.48	2.59	5.62	5.48	2.21	2.10	381.3	401.9	392	844
5	5	17.54	1.73	1.56	10.06	9.86	8.87	1.74	1.41	483.9	598.1	150	844
6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	2	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	3	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	4	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	5	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	1	3.11	0.74	0.69	6.91	23.77	22.12	1.51	1.31	552.1	637.3	22	832
7	2	17.19	1.58	1.43	9.32	9.17	8.32	1.45	1.20	572.5	695.8	148	832
7	3	30.69	1.82	1.74	4.19	5.92	5.67	1.29	1.19	644.6	702.1	252	832
7	4	34.24	1.87	1.73	7.29	5.45	5.05	1.29	1.11	646.3	752.0	288	832
7	5	14.78	1.41	1.30	7.60	9.53	8.80	1.31	1.12	635.7	745.3	122	832
MARGINAL	1	3.05	0.63	0.58	7.17	20.57	19.11	9.21	7.96	751.1	869.8	171	6920
MARGINAL	2	16.77	1.36	1.23	9.68	8.13	7.34	9.21	7.51	751.5	921.1	997	6920
MARGINAL	3	30.66	1.55	1.49	3.81	5.06	4.86	7.82	7.24	884.8	956.2	2086	6920
MARGINAL	4	34.67	1.60	1.47	7.65	4.60	4.25	7.77	6.63	890.7	1043.2	2614	6920
MARGINAL	5	14.86	1.20	1.10	8.42	8.07	7.39	7.86	6.59	880.0	1049.9	1052	6920
Average			1.86	1.73	6.96								

Table 5. Comparison of standard errors with and without finite population correction (fpc) for the variable SPREPPRG

PERTYPE	SPREPPRG	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	38.01	3.63	3.32	8.65	9.55	8.73	4.67	3.89	178.7	214.2	254	834
1	2	4.54	1.46	1.34	8.24	32.05	29.41	4.08	3.43	204.6	242.9	34	834
1	3	37.00	3.12	2.79	10.71	8.43	7.53	3.48	2.78	239.5	300.3	377	834
1	4	7.43	1.41	1.35	4.53	19.00	18.14	2.42	2.20	345.2	378.6	72	834
1	5	12.81	2.77	2.71	2.17	21.60	21.13	5.71	5.47	146.0	152.5	96	834
1	6	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	834
1	93	0.21	0.21	0.21	4.21	102.35	98.13	1.83	1.69	455.0	495.1	1	834
2	1	35.95	3.85	3.53	8.54	10.72	9.80	6.47	5.41	155.0	185.3	346	1003
2	2	3.80	1.02	0.86	15.27	26.68	22.59	2.82	2.03	355.1	495.4	45	1003
2	3	46.07	3.09	2.88	6.85	6.72	6.26	3.86	3.35	259.6	299.1	484	1003
2	4	6.43	1.93	1.80	7.14	30.03	27.89	6.22	5.37	161.2	186.9	45	1003
2	5	7.15	1.49	1.44	3.36	20.84	20.14	3.35	3.13	299.3	320.3	77	1003
2	6	0.54	0.33	0.25	25.15	61.23	45.83	2.04	1.14	492.3	879.0	5	1003
2	93	0.05	0.05	0.04	18.52	109.40	89.66	0.59	0.40	1695.4	2524.3	1	1003
3	1	29.34	2.63	2.53	3.69	8.97	8.64	2.73	2.53	299.6	323.1	269	818
3	2	4.24	1.21	1.11	8.35	28.57	26.18	2.95	2.48	277.0	329.9	32	818
3	3	44.41	3.18	2.94	7.76	7.16	6.61	3.35	2.85	243.9	286.6	348	818
3	4	11.66	1.81	1.75	3.53	15.54	14.98	2.61	2.42	313.9	337.6	91	818
3	5	10.07	1.51	1.34	11.58	15.01	13.27	2.06	1.61	396.8	507.3	74	818
3	6	0.12	0.13	0.12	12.69	112.90	98.18	1.24	0.94	658.5	870.8	1	818
3	93	0.17	0.15	0.14	5.26	87.22	82.45	1.09	0.97	753.3	843.0	3	818
4	1	38.15	1.47	1.38	6.11	3.86	3.63	2.29	2.02	1085.8	1231.4	960	2490
4	2	5.31	0.68	0.70	-3.38	12.81	13.26	2.29	2.46	1085.7	1013.8	127	2490
4	3	39.38	1.56	1.55	1.02	3.97	3.93	2.55	2.49	977.8	998.5	978	2490
4	4	6.67	0.66	0.62	6.03	9.94	9.33	1.76	1.55	1416.6	1605.6	168	2490
4	5	10.29	0.85	0.79	6.51	8.21	7.68	1.92	1.68	1294.4	1478.3	251	2490
4	6	0.04	0.03	0.03	-3.57	69.64	73.17	0.48	0.53	5167.2	4680.5	2	2490
4	93	0.15	0.08	0.08	1.23	52.35	52.07	1.05	1.04	2362.3	2387.5	4	2490

Table 5. Comparison of standard errors with and without finite population correction (fpc) for the variable SPREPPRG (continued)

PERTYPE	SPREPPRG	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
5	1	20.26	2.00	1.96	2.10	9.88	9.67	2.02	1.93	402.9	420.8	149	813
5	2	0.99	0.38	0.36	3.70	38.31	36.88	1.19	1.10	683.6	737.8	10	813
5	3	66.93	2.33	2.24	3.82	3.48	3.35	1.99	1.85	407.8	440.6	558	813
5	4	1.46	0.53	0.50	4.56	36.05	34.44	1.56	1.43	520.1	570.0	11	813
5	5	10.36	1.68	1.53	9.04	16.22	14.76	2.47	2.05	328.6	397.2	85	813
5	6	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	813
5	93	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	813
6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	2	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	3	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	4	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	5	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	6	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	93	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	1	56.88	2.46	2.29	7.06	4.33	4.02	2.01	1.73	404.1	468.3	465	811
7	2	6.29	1.51	1.57	-3.97	24.02	24.97	3.14	3.40	258.3	238.9	53	811
7	3	19.51	1.96	1.81	7.65	10.04	9.27	1.98	1.69	409.0	479.6	153	811
7	4	4.49	0.92	0.91	1.41	20.50	20.20	1.60	1.55	506.7	522.0	37	811
7	5	12.83	1.66	1.56	5.95	12.96	12.19	2.01	1.77	404.4	457.4	103	811
7	6	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	811
7	93	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	811
MARGINAL	1	53.54	2.17	2.01	7.42	4.05	3.75	12.81	10.99	528.4	616.1	2443	6769
MARGINAL	2	6.03	1.26	1.30	-3.02	20.90	21.53	18.96	20.13	357.0	336.3	301	6769
MARGINAL	3	23.16	1.75	1.61	7.93	7.57	6.97	11.69	9.91	579.0	683.0	2898	6769
MARGINAL	4	4.80	0.79	0.78	1.52	16.45	16.19	9.22	8.94	734.0	757.3	424	6769
MARGINAL	5	12.45	1.44	1.35	6.20	11.54	10.82	12.81	11.26	528.3	601.0	686	6769
MARGINAL	6	0.01	0.00	0.00	0.00	45.61	44.06	0.12	0.11	57317.3	61423.0	8	6769
MARGINAL	93	0.02	0.01	0.01	0.00	43.21	42.77	0.26	0.26	25957.2	26493.3	9	6769
Average			1.51	1.41	6.26								

Table 6. Comparison of standard errors with and without finite population correction (fpc) for the variable SPASSTST

PERTYPE	SPASSTST	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	16.89	4.73	3.84	18.78	28.01	22.76	7.93	5.23	62.7	95.0	79	497
2	1	11.23	2.51	2.24	10.72	22.36	19.96	3.42	2.73	158.2	198.5	74	541
3	1	22.43	2.86	2.68	6.40	12.74	11.92	2.40	2.11	213.0	243.2	98	512
4	1	16.61	1.22	1.20	1.97	7.34	7.20	1.58	1.52	931.3	969.8	238	1473
5	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	1	12.32	2.07	1.93	6.73	16.76	15.64	1.79	1.56	253.3	290.9	52	453
MARGINAL	1	13.01	1.80	1.68	6.79	13.82	12.88	9.93	8.63	350.2	402.9	541	3476
Average			2.68	2.38	8.92								

Table 7. Comparison of standard errors with and without finite population correction (fpc) for the variable SINDUCT

PERTYPE	SINDUCT	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	10.48	1.79	1.68	6.05	17.03	16.01	2.94	2.60	294.5	333.5	111	867
2	1	13.49	2.54	2.34	8.11	18.84	17.31	5.69	4.81	180.8	214.0	119	1029
3	1	11.75	1.74	1.66	4.87	14.85	14.12	2.50	2.26	340.8	376.5	104	851
4	1	13.30	1.15	1.08	5.90	8.66	8.15	2.95	2.61	869.4	981.8	342	2564
5	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	1	14.58	1.55	1.46	5.75	10.62	10.01	1.62	1.44	519.7	585.0	122	841
MARGINAL	1	14.36	1.38	1.30		9.61	9.03	9.53	8.42	645.8	730.6	798	6152
Average			1.75	1.64	6.14								

Table 8. Comparison of standard errors with and without finite population correction (fpc) for the variable SREMAIN

PERTYPE	SREMAIN	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
		(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	41.30	3.13	2.91	7.15	7.59	7.04	3.50	3.02	247.1	286.5	355	864
1	2	27.16	3.26	2.98	8.65	12.01	10.97	4.65	3.88	185.9	222.7	224	864
1	3	8.04	1.36	1.29	4.72	16.86	16.06	2.15	1.95	402.1	443.2	77	864
1	4	4.10	1.12	1.06	5.34	27.42	25.94	2.78	2.48	311.3	348.0	38	864
1	5	19.40	2.26	2.11	6.59	11.66	10.89	2.83	2.47	305.5	350.2	170	864
2	1	29.29	3.26	2.95	9.54	11.13	10.07	5.27	4.31	194.9	238.1	317	1027
2	2	41.52	3.28	3.03	7.48	7.89	7.30	4.54	3.89	226.1	264.1	402	1027
2	3	8.89	2.13	1.95	8.81	24.00	21.89	5.77	4.80	177.9	213.9	85	1027
2	4	2.38	0.64	0.61	5.47	26.87	25.41	1.81	1.62	567.8	634.8	35	1027
2	5	17.92	3.14	2.97	5.29	17.52	16.59	6.88	6.17	149.3	166.5	188	1027
3	1	35.32	3.08	3.00	2.63	8.71	8.48	3.51	3.33	241.1	254.4	295	847
3	2	23.49	2.19	1.99	9.02	9.30	8.46	2.25	1.86	376.6	454.9	209	847
3	3	10.80	2.09	1.97	5.69	19.38	18.27	3.85	3.43	220.0	247.3	91	847
3	4	6.40	1.36	1.23	9.76	21.29	19.22	2.63	2.14	322.7	395.9	52	847
3	5	23.98	2.29	2.17	5.37	9.55	9.04	2.44	2.18	347.8	388.3	200	847
4	1	30.65	1.59	1.56	2.13	5.20	5.09	3.06	2.93	837.3	874.4	754	2558
4	2	32.56	1.43	1.36	4.83	4.39	4.18	2.38	2.16	1075.4	1186.6	845	2558
4	3	9.21	0.70	0.69	1.43	7.57	7.46	1.49	1.44	1719.6	1771.6	238	2558
4	4	5.99	0.70	0.66	5.86	11.69	11.01	2.23	1.97	1149.3	1295.8	157	2558
4	5	21.59	0.97	0.94	2.69	4.48	4.36	1.41	1.34	1809.3	1911.3	564	2558
5	1	25.98	2.14	1.98	7.49	8.23	7.61	2.06	1.76	421.0	492.0	222	867
5	2	41.71	2.01	1.96	2.58	4.83	4.70	1.44	1.37	600.4	633.1	357	867
5	3	9.17	1.15	1.07	6.96	12.53	11.66	1.37	1.19	631.0	728.7	86	867
5	4	4.35	1.03	0.85	16.98	23.58	19.57	2.19	1.51	395.8	574.7	34	867
5	5	18.79	1.64	1.56	4.99	8.75	8.31	1.54	1.39	564.4	625.3	168	867
6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	2	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	3	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	4	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	5	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	2	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	3	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	4	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
7	5	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
MARGINAL	1	31.04	1.24	1.22	2.25	4.01	3.92	4.46	4.26	1382.6	1448.1	1943	6163
MARGINAL	2	32.82	1.08	1.01	6.51	3.28	3.07	3.24	2.83	1902.8	2178.7	2037	6163
MARGINAL	3	9.30	0.59	0.57	3.89	6.37	6.13	2.56	2.37	2403.7	2600.2	577	6163
MARGINAL	4	5.60	0.53	0.49	8.26	9.52	8.74	3.31	2.79	1860.9	2209.9	316	6163
MARGINAL	5	21.24	0.76	0.74	3.67	3.60	3.46	2.15	1.99	2869.7	3095.8	1290	6163
			1.92	1.79	6.30								

Table 9. Comparison of standard errors with and without finite population correction (fpc) for the variable SHOURSPD

PERTYPE	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n
	(Mean)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct	
1	57.43	3.35	2.95	11.93	5.83	5.13	2.45	1.90	348.2	448.9	852
2	58.17	3.08	2.77	9.92	5.29	4.76	1.80	1.46	556.8	686.3	1003
3	64.18	5.61	5.39	4.01	8.74	8.39	3.17	2.92	260.0	282.2	824
4	58.79	2.48	2.30	7.14	4.22	3.92	2.26	1.95	1103.9	1280.2	2492
5	54.29	3.80	3.74	1.58	6.99	6.88	2.65	2.57	320.3	330.6	848
6	37.07	5.85	6.21	-6.21	15.78	16.76	3.64	4.11	229.3	203.3	835
7	65.05	3.00	2.81	6.23	4.61	4.33	1.09	0.96	750.9	854.3	817
MARGINAL	61.76	2.41	2.24	6.90	3.90	3.63	6.47	5.61	1185.8	1367.9	7671
Average		3.88	3.74	4.94							

Table 10. Comparison of standard errors with and without finite population correction (fpc) for the variable SHOURSPD

PERTYPE	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n
	(Mean)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct	
1	13.12	0.50	0.46	8.76	3.83	3.49	3.66	3.04	233.1	280.6	852
2	16.42	0.49	0.43	12.42	2.99	2.62	3.15	2.42	319.0	415.4	1003
3	12.14	0.49	0.47	3.89	4.02	3.86	2.76	2.54	298.8	324.0	824
4	14.57	0.29	0.28	3.48	1.97	1.90	2.57	2.39	969.4	1043.9	2492
5	14.01	0.46	0.44	3.72	3.26	3.14	2.14	1.99	396.6	427.0	848
6	7.88	0.32	0.30	6.56	4.06	3.80	1.99	1.75	419.7	478.6	835
7	15.46	0.45	0.43	5.12	2.90	2.75	1.75	1.57	467.3	519.1	817
MARGINAL	14.64	0.37	0.36	4.56	2.55	2.43	11.59	10.55	662.0	727.3	7671
Average		0.43	0.40	6.28							

Table 11. Comparison of standard errors with and without finite population correction (fpc) for the variable SHAVEMA

SIZE	PERTYPE	SHAVEMA	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
			(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	1	54.86	6.97	6.09	12.71	12.71	11.10	7.58	5.78	50.9	66.8	251	386
1	2	1	72.97	8.57	8.10	5.53	11.75	11.10	26.27	23.45	26.8	30.1	533	705
1	3	1	55.88	6.69	6.43	3.81	11.96	11.51	4.30	3.98	55.2	59.6	122	237
1	4	1	61.43	4.10	4.02	2.07	6.68	6.54	3.55	3.41	140.7	146.7	310	500
1	5	1	87.76	3.92	3.94	-0.56	4.46	4.49	2.11	2.14	70.0	69.2	128	148
1	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
1	7	1	42.24	7.06	6.29	10.91	16.71	14.88	2.76	2.19	49.0	61.8	62	135
1	MARGINAL	1	45.89	5.86	5.14	12.38	12.78	11.19	29.23	22.43	72.2	94.1	1406	2111
Average				6.22	5.81	5.75								
2	1	1	64.07	4.73	4.44	6.17	7.39	6.93	2.54	2.24	102.7	116.7	167	261
2	2	1	68.14	5.45	5.05	7.41	8.00	7.41	1.70	1.46	73.0	85.2	87	124
2	3	1	62.04	4.75	4.56	4.06	7.65	7.34	3.14	2.89	104.5	113.5	190	328
2	4	1	62.77	3.05	2.83	7.34	4.86	4.51	2.97	2.55	250.8	292.2	458	746
2	5	1	92.34	2.05	1.94	5.08	2.22	2.10	1.67	1.51	168.8	187.4	259	282
2	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
2	7	1	43.70	4.27	4.02	5.99	9.78	9.19	1.86	1.65	134.8	152.5	109	251
2	MARGINAL	1	47.03	3.68	3.46	6.08	7.83	7.35	10.84	9.56	183.8	208.4	1270	1992
Average				4.05	3.81	6.01								
3	1	1	58.43	6.78	6.10	9.99	11.60	10.44	1.80	1.46	52.9	65.3	57	95
3	2	1	78.65	8.00	7.49	6.38	10.17	9.61	1.37	1.21	26.3	30.7	28	36
3	3	1	42.14	6.21	5.88	5.34	14.75	13.91	2.23	2.01	63.1	70.5	61	141
3	4	1	59.90	2.34	2.24	4.28	3.91	3.73	1.64	1.51	438.9	478.9	427	719
3	5	1	83.12	2.76	2.62	5.10	3.32	3.15	1.51	1.38	183.9	203.3	237	278
3	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
3	7	1	56.40	4.56	4.33	4.85	8.08	7.68	2.16	1.96	118.5	130.9	134	256
3	MARGINAL	1	57.15	4.08	3.88	4.97	7.14	6.79	10.38	9.42	147.0	162.8	944	1525
Average				5.11	4.78	5.99								

Table 11. Comparison of standard errors with and without finite population correction (fpc) for the variable SHAVEMA (continued)

SIZE	PERTYPE	SHAVEMA	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
			(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
4	1	1	38.51	10.48	9.40	10.29	27.22	24.58	1.30	1.09	21.6	26.7	10	28
4	2	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	1
4	3	1	44.12	10.40	9.41	9.58	23.58	21.32	1.10	0.90	22.8	27.9	12	25
4	4	1	55.54	3.14	3.25	-3.37	5.66	5.85	1.38	1.49	249.7	233.8	186	345
4	5	1	84.91	4.80	4.58	4.44	5.65	5.40	1.15	1.05	55.7	61.0	53	64
4	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
4	7	1	52.55	7.39	6.84	7.41	14.06	13.01	4.14	3.55	45.7	53.3	93	189
4	MARGINAL	1	53.23	6.68	6.18	7.40	12.54	11.61	11.67	10.07	55.9	65.1	354	652
Average				7.24	6.70	5.67								
IEU	1	1	35.05	7.03	6.62	5.83	20.06	18.70	2.06	1.80	46.0	52.2	34	95
IEU	2	1	61.21	8.84	7.62	13.78	14.44	12.28	1.71	1.26	30.4	40.5	32	52
IEU	3	1	51.20	13.50	14.47	-7.24	26.36	28.44	8.75	9.97	13.7	11.9	58	120
IEU	4	1	53.32	8.05	7.64	5.07	15.10	14.58	5.63	4.90	38.4	42.7	116	216
IEU	5	1	83.91	5.91	5.75	2.69	7.04	6.88	2.43	2.23	38.6	41.3	78	94
IEU	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
IEU	7	1	34.96	37.00	34.44	6.91	105.83	98.52	3.61	3.13	1.7	1.9	2	6
IEU	MARGINAL	1	58.27	5.65	5.50	2.74	9.70	9.50	7.66	7.08	76.1	80.6	320	583
Average				13.39	12.76	4.51								
State Schl	1	1	72.32	33.51	30.04	10.35	46.34	41.54	1.68	1.35	1.8	2.2	2	3
State Schl	2	1	59.94	5.27	4.84	8.09	8.79	8.08	1.34	1.13	86.5	102.4	70	116
State Schl	3	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
State Schl	4	1	60.10	7.39	6.83	7.56	12.30	11.37	0.80	0.68	43.9	51.4	21	35
State Schl	5	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
State Schl	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
State Schl	7	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
State Schl	MARGINAL	1	60.20	4.74	4.40	7.07	7.87	7.31	1.44	1.25	106.7	123.6	93	154
Average				15.39	13.91	8.67								
MARGINAL	1	1	51.59	3.56	3.19	10.35	6.89	6.18	4.39	3.53	197.6	245.9	521	868
MARGINAL	2	1	68.26	3.24	2.95	8.99	4.74	4.32	5.00	4.14	206.9	249.8	750	1034
MARGINAL	3	1	53.19	3.13	2.96	5.59	5.89	5.56	3.36	2.99	253.6	284.5	443	851
MARGINAL	4	1	59.92	1.40	1.36	3.01	2.33	2.26	2.08	1.96	1230.7	1307.6	1518	2561
MARGINAL	5	1	86.76	1.55	1.52	2.32	1.79	1.75	1.82	1.74	476.4	499.1	755	866
MARGINAL	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
MARGINAL	7	1	49.25	2.79	2.57	7.83	5.65	5.21	2.60	2.21	322.3	379.4	400	837
MARGINAL	MARGINAL	1	51.29	2.42	2.22	8.16	4.71	4.33	16.38	13.82	428.5	507.7	4387	7017
Overall Ave				8.57	7.96	6.10								

Table 12. Comparison of standard errors with and without finite population correction (fpc) for the variable SHAVEMA

REGION	PERTYPE	SHAVEMA	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
			(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
1	1	1	78.12	9.12	8.42	7.69	11.67	10.90	2.34	1.98	20.6	24.8	38	48
1	2	1	91.37	4.84	4.55	5.91	5.30	4.98	0.68	0.61	33.7	38.0	20	23
1	3	1	70.16	8.20	8.12	1.00	11.69	11.57	2.99	2.93	31.1	31.8	63	93
1	4	1	75.66	2.64	2.49	5.61	3.48	3.29	1.17	1.05	265.1	297.8	233	309
1	5	1	89.50	3.91	3.61	7.68	4.37	4.03	2.00	1.70	61.6	72.3	111	123
1	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
1	7	1	77.58	9.88	8.74	11.53	12.73	11.27	4.88	3.82	17.8	22.8	67	87
1	MARGINAL	1	77.50	8.22	7.28	11.38	10.60	9.40	26.43	20.88	25.8	32.9	532	683
Average				6.43	5.99	6.57								
2	1	1	58.30	11.11	9.33	16.01	19.05	16.08	9.28	6.47	19.7	28.0	130	183
2	2	1	71.92	6.17	5.56	9.94	8.59	7.77	4.68	3.72	53.0	65.9	197	248
2	3	1	46.12	10.22	8.51	16.69	22.16	18.47	5.59	3.82	23.8	34.3	64	133
2	4	1	62.46	3.41	3.37	1.03	5.46	5.42	1.79	1.70	201.8	206.3	220	362
2	5	1	91.03	2.59	2.31	10.89	2.85	2.54	0.94	0.71	121.8	155.6	101	114
2	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
2	7	1	62.14	5.14	4.40	14.31	8.27	7.08	1.21	0.89	89.2	121.4	65	108
2	MARGINAL	1	62.48	4.52	3.81	15.63	7.23	6.10	9.99	6.98	114.9	161.6	777	1148
Average				6.44	5.58	11.48								
3	1	1	40.59	10.90	9.57	12.19	26.86	23.44	9.56	7.43	20.3	26.4	88	194
3	2	1	50.68	7.82	7.15	8.58	15.42	14.08	6.94	5.88	40.9	49.0	166	284
3	3	1	42.02	5.16	4.73	8.44	12.29	11.21	2.60	2.21	91.4	109.2	116	238
3	4	1	51.79	2.50	2.39	4.44	4.83	4.59	1.45	1.36	398.9	436.4	308	580
3	5	1	84.58	4.12	3.95	4.05	4.87	4.66	2.29	2.20	76.9	82.2	151	176
3	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
3	7	1	33.61	3.84	3.36	12.63	11.43	9.99	1.39	1.06	151.3	198.1	77	210
3	MARGINAL	1	36.30	3.41	2.98	12.65	9.39	8.19	8.44	6.55	199.2	261.2	906	1682
Average				5.72	5.19	8.39								

Table 12. Comparison of standard errors with and without finite population correction (fpc) for the variable SHAVEMA (continued)

REGION	PERTYPE	SHAVEMA	ESTIMATE	STDERROR			CV(%)		DEFF		EFF_SAMP		CELL_n	DENOM_n
			(Percent)	Current	Correct	REL DIF	Current	Correct	Current	Correct	Current	Correct		
4	1	1	43.11	5.33	5.18	2.85	12.36	11.95	2.37	2.23	86.4	91.6	107	205
4	2	1	66.33	6.76	5.86	13.42	10.20	8.83	4.06	3.04	48.8	65.1	147	198
4	3	1	51.78	4.25	3.96	6.74	8.20	7.65	1.55	1.34	138.5	159.3	106	214
4	4	1	57.49	2.44	2.34	3.74	4.24	4.08	1.71	1.58	412.2	444.7	400	705
4	5	1	85.47	3.03	2.97	2.02	3.54	3.47	1.87	1.79	135.6	141.2	219	253
4	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
4	7	1	58.65	4.38	4.26	2.69	7.47	7.27	1.84	1.74	126.5	133.6	124	233
4	MARGINAL	1	58.93	3.79	3.69	2.66	6.44	6.27	10.75	10.16	168.3	177.6	1103	1808
Average				4.36	4.09	5.24								
5	1	1	56.74	9.77	9.32	4.53	17.21	16.43	3.11	2.83	25.7	28.2	54	80
5	2	1	76.61	6.62	6.54	1.21	8.64	8.40	1.88	1.88	40.9	40.5	57	77
5	3	1	66.99	8.89	9.20	-3.50	13.27	13.78	3.61	3.82	28.0	26.2	63	101
5	4	1	60.98	5.08	4.43	12.69	8.32	7.28	2.75	2.01	92.4	121.4	157	254
5	5	1	87.20	4.86	5.22	-7.22	5.58	5.99	2.01	2.24	47.2	41.6	84	95
5	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
5	7	1	34.18	7.06	7.13	-0.98	20.65	20.84	1.95	1.92	45.2	44.3	30	88
5	MARGINAL	1	38.87	5.66	5.72	-1.17	14.55	14.69	9.36	9.33	74.3	72.7	445	695
Average				7.05	6.97	1.12								
6	1	1	52.81	6.42	6.16	4.05	12.16	11.67	2.62	2.41	60.4	65.6	104	158
6	2	1	82.07	6.07	4.63	23.74	7.40	5.64	5.11	2.97	39.9	68.6	163	204
6	3	1	47.00	6.03	5.71	5.36	12.83	12.14	1.05	0.94	68.5	76.5	31	72
6	4	1	53.61	4.73	4.81	-1.71	8.82	8.98	3.16	3.32	111.2	107.5	200	351
6	5	1	84.39	3.83	3.73	2.74	4.54	4.42	1.17	1.11	89.8	94.9	89	105
6	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
6	7	1	32.80	6.44	5.94	7.83	19.63	18.09	2.09	1.82	53.2	62.6	37	111
6	MARGINAL	1	36.27	5.46	5.00	8.48	15.05	13.79	12.91	10.91	77.6	92.6	624	1001
Average				5.59	5.16	7.00								
MARGINAL	1	1	51.59	3.56	3.19	10.35	6.89	6.18	4.39	3.53	197.6	245.9	521	868
MARGINAL	2	1	68.26	3.24	2.95	8.99	4.74	4.32	5.00	4.14	206.9	249.8	750	1034
MARGINAL	3	1	53.19	3.13	2.96	5.59	5.89	5.56	3.36	2.99	253.6	284.5	443	851
MARGINAL	4	1	59.92	1.40	1.36	3.01	2.33	2.26	2.08	1.96	1230.7	1307.6	1518	2561
MARGINAL	5	1	86.76	1.55	1.52	2.32	1.79	1.75	1.82	1.74	476.4	499.1	755	866
MARGINAL	6	1	.	.	.	.	.	.	N/A	N/A	N/A	N/A	0	0
MARGINAL	7	1	49.25	2.79	2.57	7.83	5.65	5.21	2.60	2.21	322.3	379.4	400	837
MARGINAL	MARGINAL	1	51.29	2.42	2.22	8.16	4.71	4.33	16.38	13.82	428.5	507.7	4387	7017
Overall Ave				5.93	5.50	6.63								

Appendix F

Summary of Imputation Actions for the Administrator Survey

Summary of Imputation Actions for the SPeNSE Administrator Survey

Question Number	Variable	Skipped	Non-imputed	Imputed	Imputation Method
MA1	MSP35CFM	0	356	2	Method 6: Based on roster information or using the value that does not change the skip pattern
MA2	MSPVHCFM	0	357	1	
MA3	MSPEDCFM	53	302	3	
MA4	MSPOSCFM	53	305	0	No imputation
MA5	MPRNATIV	15	329	14	Method 2: NN imputation using QED (or Census) information on race/ethnicity for matching Method 3 for one case
MA5	MPRASIAN	15	329	14	
MA5	MPRBLACK	15	328	15	
MA5	MPRHISPA	15	328	15	
MA5	MPRHAWAI	15	329	14	
MA5	MPRWHITE	15	328	15	
MA6	MFTELEP	15	309	34	Methods 1 for SS and 2 for LEA and IEU
MA8	MSLPCFM	0	355	3	Method 6
MA9	MPARACFM	0	356	2	Method 6
MA10	MNBFTEPT	0	345	13	Method 2 with regression prediction
MA10	MNBFTEOT	0	346	12	Method 2 with regression prediction
MA10	MNBFTEPS	0	353	5	Method 2 with regression prediction
MA10	MNBFTESL	0	353	5	Method 2 with regression prediction
MB1	MFUNDVAC	0	355	3	Method 5 based on answers to MB2
MB2	MFNDVAC3	303	55	0	No imputation
MB3	M3VACT1	25	326	7	Method 3
MB3	M3VACT2	25	326	7	Method 3
MB3	M3VACT3	79	274	5	Method 3
MB3	M3VACT4	79	278	1	Method 3
MB3	M3VACSLP	25	328	5	Method 3
MB3	M3VACPT	25	322	11	Method 3
MB3	M3VACOT	25	323	10	Method 3
MB3	M3VACPSY	25	330	3	Method 3
MB3	M3VACITR	25	325	8	Method 3
MB4	MVACAT1	55	289	14	Method 2 with regression prediction
MB4	MVACAT2	55	295	8	Method 2 with regression prediction
MB4	MVACAT3	103	241	14	Method 2 with regression prediction
MB4	MVACAT4	103	246	9	Method 2 with regression prediction
MB5	MVACLEP	65	262	31	Method 7
MB6	MVACSLP	55	295	8	Method 2 with regression prediction
MB6	MVACPT	55	291	12	Method 2 with regression prediction
MB6	MVACOT	55	287	16	Method 2 with regression prediction
MB6	MVACPSY	55	298	5	Method 2 with regression prediction
MB6	MVACITR	55	294	9	Method 2 with regression prediction
MB7	MTURNOVR	58	273	27	Method 2 with regression prediction
MB8	MADV NATL	26	320	12	Method 2 with regression prediction
MB8	MADV LOCL	26	323	9	Method 2 with regression prediction
MB8	MCONTOTH	26	326	6	Method 2 with regression prediction
MB8	MCONTORG	26	316	16	Method 2 with regression prediction

Question Number	Variable	Skipped	Non-imputed	Imputed	Imputation Method	
MB8	MCONTUNV	26	325	7	Method 2 with regression prediction	
MB8	MRECRUOS	26	323	9	Method 6	
MB9	MSPREFRT	26	319	13	Method 6	
MB10	MSEAPRS	34	318	6	Method 2 using the total number of vacancies for special education teachers as the matching variable. Only one donor was used to impute any missing subvariables.	
MB11	MSESALRY	34	318	6		
MB11	MSESECUR	34	318	6		
MB11	MSEUNWIL	34	318	6		
MB11	MSEENVIR	34	316	8		
MB11	MSEBESTQ	34	317	7		
MB11	MSELATE	34	316	8		
MB11	MSEHIRE	34	317	7		
MB11	MSEUNION	34	318	6		
MB11	MSEAACT	34	319	5		
MB11	MSELOCAT	34	318	6		
MB12	MSPAPPS	103	251	4		Method 2 using the number of speech language pathologists (MVACSLP variable) as the matching variable. Only one donor was used to impute any missing subvariables.
MB12	MSPSALRY	103	251	4		
MB12	MSPECUR	103	251	4		
MB12	MSPUNWIL	103	251	4		
MB12	MSPENVIR	103	251	4		
MB12	MSPBESTQ	103	251	4		
MB12	MSPLATE	103	251	4		
MB12	MSPHIRE	103	250	5		
MB12	MSPUNION	103	251	4		
MB12	MSPAACT	103	251	4		
MB12	MSPLOCAT	103	251	4		
MB13	MPTAPPS	228	117	13	Method 2 using the number of vacancies for physical therapists (MVACPT variable) as the matching variable. Only one donor was used to impute any missing subvariables.	
MB13	MPTSALRY	228	117	13		
MB13	MPTSECUR	228	117	13		
MB13	MPTUNWIL	228	117	13		
MB13	MPTENVIR	228	117	13		
MB13	MPTBESTQ	228	117	13		
MB13	MPTLATE	228	117	13		
MB13	MPTHIRE	228	117	13		
MB13	MPTUNION	228	117	13		
MB13	MPTAACT	228	117	13		
MB13	MPTLOCAT	228	117	13		

Question Number	Variable	Skipped	Non-imputed	Imputed	Imputation Method	
MB14	MOTAPPS	196	153	9	Method 2 using the number of occupational therapists (MVACOT variable) as the matching variable. Only one donor was used to impute any missing subvariables.	
MB14	MOTSALRY	196	153	9		
MB14	MOTSECUR	196	153	9		
MB14	MOTUNWIL	196	152	10		
MB14	MOTENVIR	196	153	9		
MB14	MOTBESTQ	196	153	9		
MB14	MOTLATE	196	153	9		
MB14	MOTHIRE	196	153	9		
MB14	MOTUNION	196	153	9		
MB14	MOTAACCT	196	153	9		
MB14	MOTLOCAT	196	153	9		
MB15	MPSAPPS	156	195	7		Method 2 using the number of psychologists (MVACPSY variable) as the matching variable.
MB15	MPSSALRY	156	196	6		
MB15	MPSSECUR	156	196	6		
MB15	MPSUNWIL	156	196	6	Only one donor was used to impute any missing subvariables.	
MB15	MPSENVIR	156	196	6		
MB15	MPSBESTQ	156	196	6		
MB15	MPSLATE	156	196	6		
MB15	MPSHIRE	156	196	6		
MB15	MPSUNION	156	196	6		
MB15	MPSAACCT	156	196	6		
MB15	MPSLOCAT	156	196	6		
MB16	MSLAPPS	200	149	9		Method 2 using the number of sign language interpreters (MVACITR variable) as the matching variable. Only one donor was used to impute any missing subvariables.
MB16	MSLSALRY	200	150	8		
MB16	MSLSECUR	200	150	8		
MB16	MSLUNWIL	200	150	8		
MB16	MSLENVIR	200	149	9		
MB16	MSLBESTQ	200	150	8		
MB16	MSLLATE	200	150	8		
MB16	MSLHIRE	200	150	8		
MB16	MSLUNION	200	150	8		
MB16	MSLAACT	200	150	8		
MB16	MSLLOCAT	200	150	8		
MB17	M3VACPAR	0	353	5	Method 3	

Question Number	Variable	Skipped	Non-imputed	Imputed	Imputation Method	
MB18	MPAAPPS	55	296	7	Method 2 using the roster information on the number of paraprofessionals as the matching variable. Only one donor was used to impute any missing subvariables.	
MB18	MPASALRY	55	295	8		
MB18	MPASECUR	55	296	7		
MB18	MPAUNWIL	55	296	7		
MB18	MPAENVIR	55	294	9		
MB18	MPABESTQ	55	296	7		
MB18	MPALATE	55	295	8		
MB18	MPAHIRE	55	295	8		
MB18	MPAUNION	55	296	7		
MB18	MPAAACT	55	296	7		
MB18	MPALOCAT	55	296	7		
MC1	MWAVCLAS	57	283	18		Method 1
MC2	MWAVCASE	57	279	22		Method 1
MC3	MSEIFULL	230	114	14	Method 1 Only one donor was used to impute any missing subvariables.	
MC3	MSEILESS	230	114	14		
MC3	MSEIEXPN	230	114	14		
MC3	MSEIUNCR	230	114	14		
MC3	MSEIADMN	230	114	14		
MC3	MSEISUB	230	114	14		
MC3	MSEIPARA	236	107	15		
MC3	MSEICNTC	230	113	15		
MC3	MSEIOTHR	230	114	14		
MC4	MSEIWAIV	331	21	6		Method 1
MC5	MICLASWV	346	9	3	Method 1	
MC6	MITCHR WV	347	9	2	Method 1	
MC7	MSE2FULL	229	122	7	Method 1 Only one donor was used to impute any missing subvariables.	
MC7	MSE2LESS	229	120	9		
MC7	MSE2EXPN	229	120	9		
MC7	MSE2UNCR	229	122	7		
MC7	MSE2ADMN	229	123	6	Method 1 Only one donor was used to impute any missing subvariables.	
MC7	MSE2SUB	229	123	6		
MC7	MSE2PARA	241	111	6		
MC7	MSE2CNTC	229	123	6		
MC7	MSE2OTHR	229	122	7		
MC8	MSE2WAIV	330	25	3	Method 1	
MC9	M2CLASWV	345	10	3	Method 1	
MC10	M2TCHR WV	349	7	2	Method 1	

Question Number	Variable	Skipped	Non-imputed	Imputed	Imputation Method
MC11	MSE3FULL	201	145	12	Method 1 Only one donor was used to impute any missing subvariables.
MC11	MSE3LESS	201	144	13	
MC11	MSE3EXPN	201	145	12	
MC11	MSE3UNCR	201	144	13	
MC11	MSE3ADMN	201	145	12	
MC11	MSE3SUB	201	144	13	
MC11	MSE3PARA	206	141	11	
MC11	MSE3CNTC	201	145	12	
MC11	MSE3OTHR	201	144	13	
MC12	MSE3WAIV	329	24	5	Method 1
MC13	M3CLSWV	340	9	9	Method 1 ^a
MC14	M3TCHR WV	340	9	9	Method 1 ^a
MC15	MSE4FULL	129	213	16	Method 1 Only one donor was used to impute any missing subvariables.
MC15	MSE4LESS	129	214	15	
MC15	MSE4EXPN	129	214	15	
MC15	MSE4UNCR	129	214	15	
MC15	MSE4ADMN	129	214	15	
MC15	MSE4SUB	129	214	15	
MC15	MSE4PARA	138	204	16	
MC15	MSE4CNTC	129	214	15	
MC15	MSE4OTHR	129	213	16	
MC16	MSE4WAIV	310	40	8	
MC17	M4CLAS WV	336	17	5	Method 1
MC18	M4TCHR WV	334	18	6	Method 1
MC19	MSPFULL	158	189	11	Method 1 Only one donor was used to impute any missing subvariables.
MC19	MSPLESS	158	190	10	
MC19	MSPEXP N	166	182	10	
MC19	MSPPARA	168	180	10	
MC19	MSPCNTC	158	190	10	
MC19	MSPOTHR	158	189	11	
MC20	MSPCAS WV	326	30	2		Method 1
MC21	MSPWAIV	349	7	2	Method 1
MC22	MPTFULL	287	63	8	Method 1 Only one donor was used to impute any missing subvariables.
MC22	MPTLESS	287	64	7	
MC22	MPTEXP N	291	60	7	
MC22	MPTPARA	290	61	7	
MC22	MPTCNTC	287	64	7	
MC22	MPTOTHR	287	63	8	
MC23	MPTCAS WV	348	10	0		No imputation
MC24	MPTWAIV	358	0	0	No imputation ^a
MC25	MOTFULL	245	100	13	Method 1 with only one donor for all

Question Number	Variable	Skipped	Non-imputed	Imputed	Imputation Method
MC25	MOTLESS	245	100	13	Method 1 Only one donor was used to impute any missing subvariables.
MC25	MOTEXPN	249	96	13	
MC25	MOTPARA	250	95	13	
MC25	MOTCNTC	245	100	13	
MC25	MOTOTHR	245	99	14	
MC26	MOTCASWV	340	18	0	Method 1
MC27	MOTWAIV	357	1	0	Method 1 ^a
MC28	MPSFULL	198	155	5	Method 1 Only one donor was used to impute any missing subvariables.
MC28	MPSLESS	198	155	5	
MC28	MPSEXPN	199	153	6	
MC28	MPSCNTC	198	155	5	
MC28	MPSOTHR	198	154	6	
MC29	MSLFULL	245	107	6	Method 1 Only one donor was used to impute any missing subvariables.
MC29	MSLLESS	245	107	6	
MC29	MSLEXPN	251	99	8	
MC29	MSLCNTC	245	106	7	
MC29	MSLOTHR	245	106	7	
MC30	MSLCASWV	343	13	2	Method 1
MC31	MSLWAIV	358	0	0	No imputation ^a
MC32	MLPFULL	304	51	3	Method 1 Only one donor was used to impute any missing subvariables.
MC32	MLPLESS	304	51	3	
MC32	MLPEXPN	304	50	4	
MC32	MLPUNCR	304	51	3	
MC32	MLPADMN	304	51	3	
MC32	MLPSUB	304	50	4	
MC32	MLPPARA	311	44	3	
MC32	MLPCNTC	304	50	4	
MC32	MLPOTHR	304	50	4	
MC33	MLPCLSWV	352	6	0	
MC34	MLPCLNUM	357	1	0	Method 1
MC35	MLPTCHWV	356	1	1	Method 1 ^a
MD1	MFULCERT	7	348	3	Method 1 Only one donor was used to impute any missing subvariables.
MD1	MEMRCERT	7	346	5	
MD1	MSTAPPRV	7	347	4	
MD1	MMAJOR	7	344	7	
MD1	MSKILLS	7	342	9	
MD1	MSTTEST	7	336	15	
MD1	MPRAXIS	7	332	19	
MD1	MAPPSOS	7	345	6	
MD2	MAPPRAS	26	319	13	
MD4	MNHCAT1	230	110	18	Method 2 with regression prediction
MD4	MNHCAT2	236	109	13	Method 2 with regression prediction
MD4	MNHCAT3	208	133	17	Method 2 with regression prediction
MD4	MNHCAT4	134	201	23	Method 2 with regression prediction

Question Number	Variable	Skipped	Non-imputed	Imputed	Imputation Method
MD4	MPRNHNAT	179	144	35	Method 2 with regression prediction
MD5	MPRNHASN	179	144	35	Method 2 with regression prediction
MD5	MPRNHBLK	179	144	35	Method 2 with regression prediction
MD5	MPRNHHIS	179	146	33	Method 2 with regression prediction
MD5	MPRNHHAW	179	145	34	Method 2 with regression prediction
MD5	MPRNHWHT	179	145	34	Method 2 with regression prediction
MD6	MNHLEP	308	44	6	Method 9
MD7	MNHSP	172	171	15	Method 2 with regression prediction
MD7	MNHPT	294	54	10	Method 2 with regression prediction
MD7	MNHOT	260	85	13	Method 2 with regression prediction
MD7	MNHPS	215	133	10	Method 2 with regression prediction
MD7	MNHSL	256	90	12	Method 2 with regression prediction
MD7	MNHPA	54	261	43	Method 2 with regression prediction
MD8	MPREXCEL	33	298	27	Method 4
MD9	MPDPLAN	9	340	9	Method 1
MD10	MFUNDING	0	353	5	Method 1
MD11	MNOCCAT1	230	113	15	Method 2 with regression prediction
MD11	MNOCCAT2	228	120	10	Method 2 with regression prediction
MD11	MNOCCAT3	201	142	15	Method 2 with regression prediction
MD11	MNOCCAT4	129	212	17	Method 2 with regression prediction
MD12	MNOCLEP	316	29	13	Method 2 with regression prediction
MD13	MDAYSSUB	60	218	80	Method 2 with regression prediction
MD14	MNOCSP	158	187	13	Method 2 with regression prediction
MD14	MNOCPT	287	64	7	Method 2 with regression prediction
MD14	MNOCOT	245	101	12	Method 2 with regression prediction
MD14	MNOCPS	198	150	10	Method 2 with regression prediction
MD14	MNOCSL	245	99	14	Method 2 with regression prediction
MD15	MADDPD	0	350	8	Method 2 with regression prediction
MD15	MMENTOR	0	353	5	Method 2 with regression prediction
MD15	MTRANSFR	0	345	13	Method 2 with regression prediction
MD15	MOBSERV	0	353	5	Method 2 with regression prediction
MD15	MIMPROVE	0	350	8	Method 2 with regression prediction
MD15	MCOUNSEL	0	339	19	Method 2 with regression prediction
MD16	MDMISS	14	331	13	Method 1
MD17	MNORENEW	232	120	6	Method 2 with regression prediction
MD17	MCOUNOUT	232	114	12	Method 2 with regression prediction
MD17	MDISMISS	232	120	6	Method 2 with regression prediction
MD18	M3LESS	232	105	21	Method 2 with regression prediction
MD18	MMORE3	232	108	18	Method 2 with regression prediction
ME1	MHISAL	15	330	13	Method 1
ME1	MLOSAL	15	330	13	Method 1
ME2	MMERITPY	0	354	4	Method 1
ME3	MPRMERIT	319	29	10	Method 1
ME4	MPRINMER	326	22	10	Method 1
ME5	MTENUR	0	355	3	Method 1

Question Number	Variable	Skipped	Non-imputed	Imputed	Imputation Method
ME6	MPRTENSE	54	272	32	Method 1
ME7	MPRTENGE	169	151	38	Method 1
ME8	MINCENTV	8	345	5	Method 2 with regression prediction
ME9	MBONUS	259	98	1	Method 2 with regression prediction
ME9	MHIRSTEP	259	96	3	Method 2 with regression prediction
ME9	MRAISE	259	96	3	Method 2 with regression prediction
ME9	MINCTVOS	259	98	1	Method 2 with regression prediction
ME10	MINCCAT1	284	72	2	Method 2 with regression prediction
ME10	MINCCAT2	288	68	2	Method 2 with regression prediction
ME10	MINCCAT3	286	70	2	Method 2 with regression prediction
ME10	MINCCAT4	275	81	2	Method 2 with regression prediction
ME10	MINCSP	267	85	6	Method 2 with regression prediction
ME10	MINCPT	273	73	12	Method 2 with regression prediction
ME10	MINCOT	274	77	7	Method 2 with regression prediction
ME10	MINCPS	267	86	5	Method 2 with regression prediction
ME11	MEANNCMT	0	358	0	No imputation
	BABASE99	0	300	58	Method 8
	MABASE99	0	273	85	Method 8
	MAMDN99	0	274	84	Method 8
	MAX99	0	298	60	Method 8
	BABASE00	0	294	64	Method 8
	MABASE00	0	269	89	Method 8
	MAMDN00	0	271	87	Method 8
	MAX00	0	291	67	Method 8

^a Note: For these cases, some missing values were not imputed due to lack of donors. Analysis should not be performed for these cases because the number of available cases for analysis is less than 20.

Appendix G
Chronbach Alphas

Cronbach Alphas

Scale	Item number(s)	Chronbach's Alpha
School climate	SC2	.90 (removed 'paperwork and routine duties interfere with job' & 'make effort to coordinate content of courses.')
Self-efficacy	SD4	.62 (no scale created)
Skill coverage of preservice preparation	SD6	.81 (removed reading)
Skill coverage of continuing professional development	SD6	.87 (removed using technology)
Skill coverage of preservice preparation for general education teachers	SD7	.79 (removed using technology, using appropriate instructional techniques, serving culturally and linguistically diverse students, collaborating with related service personnel, using literature to solve problems)
Skill coverage in continuing professional development for general education teachers	SD7	.87 (removed planning effective lessons, using appropriate instructional techniques, teaching reading, using technology)
Teaching reading-special education elementary	SD23	.86
Teaching reading-special education secondary	SD24	.83
Teaching reading-general education elementary	SD25	.91
Teaching reading-general education secondary	SD26	.92
Teaching English language learners (teachers not proficient in non-English languages)	SD36	.77 (removed 'use classwide peer tutoring')
Teaching English language learners (teachers proficient in non-English languages)	SD36	.74
Teaching English language learners (all teachers w/ recodes))	SD36	.76
Facilitating transition	SD34	.83
Promoting inclusion-general education teachers	SD32 & SD33	.73
Promoting inclusion-special education teachers	SD30	.85
Skillful in work-related tasks-spec ed	SD6	.82
Skillful in work-related tasks for general education teachers	SD7	.85 (removed using technology in instruction)
Helpfulness of induction activities	SE35	.74
Quality of continuing pro development	SF5	.92 (removed SPRESCH)