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ABSTRACT

The purpose of this survey was to assess the current supply of speech and hearing manpower, and to develop a profile of characteristics for these professionals in the state of Washington. A mail-back questionnaire containing both open-ended and structured questions was used to survey all the active and inactive speech and hearing professionals in the state. A follow up of non-respondents was carried out, generating an 84 0/0 final response rate. The findings of this study included information on the current supply and distribution of speech and hearing professionals in Washington, the differences between actively employed and inactive professionals which might account for their employment status, attitudes toward and participation patterns in continuing education in the field, the nature of case loads carried by those in active practice, and the previous education of these professionals. Comparisons are made between men and women and between different age groups. (Twenty statistical tables, a seven item bibliography, and the questionnaire are included.) (KP)

Speech and Hearing Professionals

in Washington

June, 1971

SPEECH AND HEARING PROFESSIONALS IN WASHINGTON

BY

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Research Analyst

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SUMMARY OF THE REPORT

In Spring 1970 a survey of speech and hearing professionals in Washington State was conducted by the Health Manpower Project in co-sponsorship with the Washington Speech and Hearing Association and the Washington/Alaska Regional Medical Program. The goals of the study were to assess the current supply of speech and hearing manpower and to obtain current information on continuing education needs in this field. The response rate to the survey, which utilized a mail-back questionnaire, was 84%. All known speech and hearing professionals living in Washington were surveyed.

Four fifths of the speech and hearing professionals were employed and an additional 3% (15 individuals) were seeking work. Respondents with advanced degrees were more likely than those with only a baccalaureate degree to be employed. Less experienced (under six years experience) were more likely than those with greater experience to be out of the work force. The most frequently reported work setting was the public school (75%) with nearly one out of ten working in a university or college setting. A majority (69%) were primarily engaged in diagnosis and treatment with a fifth (21%) engaged in teaching. With increasing education, the percentage of respondents engaged primarily in activities other than diagnosis and treatment increased.

Information on caseloads of employed speech and hearing professionals was obtained through the survey. There was a wide range in size of weekly caseloads, ranging from less than ten to more than 140 cases per week. Nearly half of the professionals reported caseloads of 40 to 84 cases per week. More respondents reported treating cases (patients) in the six to twenty year old age category

and treating functional articulation among the disorders. (Pages 18, 19 and 20 give detailed information on caseload size and composition.)

Information on background characteristics was also obtained. More than two-thirds of the speech and hearing professionals in Washington were female (69%). Over half of all respondents (53%) were under the age of 35 years, a higher percentage than found in other comparable occupations. About half (53%) had obtained a bachelor's degree as their highest educational attainment, with the majority receiving their highest degree in Washington state. Three fourths of the respondents were members of the Washington Speech and Hearing Association and less than half (46%) were members of the American Speech and Hearing Association. Other reported associations of membership were the National and Washington Education Associations and the Council for Exceptional Children. Employed respondents were more likely than those not employed to hold membership in one or more associations and to subscribe to professional journals.

Seventy nine percent of the speech and hearing professionals had taken one or more academic courses (excluding courses to meet degree requirements) within the last five years while 85% had participated in informal courses and workshops. A sizeable minority of the respondents (43%) felt that the number of opportunities was too few. About the same percentage (45%) felt that additional topics should be offered in continuing education. Suggested topics are shown on Page 24. A wide range of opinion was found on the preferred length and time of course relative to continuing education. A majority expressed favorable responses toward continuing education offered through television.

Males and females in the field of speech and hearing were compared relative to selected background and employment characteristics. Men were found to have greater academic training than women, to be in older age groups and have greater experience. Males were more likely than females to be employed in settings other than the public schools and to be engaged in duties other than diagnosis and treament (i.e. administration).

THE PROFESSION OF SPEECH PATHOLOGY AND AUDIOLOGY

Speech pathologists and audiologists are primarily concerned with disorders in the production, reception and perception of speech and language. They help to identify persons who have such problems and to determine their etiology, history and severity through interviews and special tests. They facilitate optimal treatment through speech, hearing and language, remedial or conservational procedures, counseling and guidance

To qualify for professional recognition by the American Speech and Hearing Association (ASHA), completion of a Master's degree or equivalent is needed. Certificates of Clinical Competence in Speech Pathology and/or Audiology are awarded by ASHA. Both require academic training at the Master's level, one year of experience in the field and the passing of a national examination. To qualify for professional recognition by the Washington Speech and Hearing Association (WSHA) a Bachelor's degree or higher with a major in speech pathology, audiology or speech and hearing science is needed.

The American Speech and Hearing Association recognizes those state associations with membership requirements consistent with its own as official agents of the association in matters appropriately handled at the State rather than National level. The Washington Speech and Hearing Association is not now recognized by ASHA but hopes to have its membership requirements consistent with ASHA by 1973.

Previously all speech and hearing professionals working in the public schools were required to hold a valid provisional or standard teaching certificate. New certification requirements and procedures are being developed for

all public school personnel. An Educational Staff Associate Certification became effective July 1, 1969. By September 1, 1972 all people employed by the schools to provide diagnostic, therapeutic and consultative services for individuals handicapped by disorders of language, speech and/or hearing should hold ~~ESA~~ certificates. These individuals are called Communications Disorder Specialists.

THE NATURE OF THE STUDY

The Health Manpower Project, through research, attempts to estimate the supply and demand of health manpower in Washington State. In Summer 1969, the Project explored the availability of current data on speech and hearing professionals in this state. Through correspondence with the American Speech and Hearing Association, the Washington Speech and Hearing Association and with other sources of manpower information, necessary data were found to be not available. In Fall 1969, the Project obtained the co-sponsorship with the Washington Speech and Hearing Association and the Washington/Alaska Regional Medical Program of a study on Washington's speech and hearing manpower. The questionnaires were constructed with consultation from experts in the field and were distributed to speech and hearing professionals in Spring 1970. The total percentage responding to the survey was 84%, which can be considered a high survey response rate(1).

Goals of the Study

The study of speech and hearing professionals in Washington was designed to investigate the following:

a) Current supply and distribution of speech and hearing professionals in Washington

b) Differences between actively employed and inactive professionals which might account for their employment status

c) Attitudes toward continuing education in the field and the participation patterns

d) Nature of the case loads carried by practicing professionals.

Design of the Study

The data-gathering device chosen for this survey was the mail-back questionnaire. Both open-ended and structured questions were used, although the majority were structured to facilitate uniform coding and processing of the data. A cover letter explaining the purpose of the study, its sponsors and a self-addressed, stamped envelope were sent with each questionnaire (see Appendix). Two follow-ups of the non-respondents to the initial mailing were conducted, with complete questionnaire materials sent to each non-respondent on the first follow-up and simply a postcard reminder on the second follow-up.

The decision was made to survey the entire population of active and inactive speech and hearing professionals rather than a sample. A list of names and addresses was compiled covering the following categories of individuals in Washington State:

a) Current members of the Washington Speech and Hearing Association

b) Past members of the Washington Speech and Hearing Association

c) Individuals who have never been members of the Association but who were referred to the Project by members

d) American Speech and Hearing Association members who are not or have not been Washington Speech and Hearing Association members.

Before the questionnaires were sent into the field, the following activities were undertaken to increase the response rate to the survey. The date and nature of the forthcoming study were announced at the annual convention of the Washington Speech and Hearing Association. Shortly thereafter, a

special notice was sent to all members reminding them of the anticipated study and requesting the names of any non-members of the association, whether for reasons of unemployment, new location in the state, or for any other reason. Emphasis was made that such names would not be used for recruitment purposes but to increase coverage in a study of speech and hearing professionals. Approximately twenty names were obtained in this manner. Several additional names were obtained through personal knowledge of officials in the state association.

Distribution of replies revealed the importance of following up non-respondents where the survey method is used. Only 20% of the total respondents replied to the initial mailing of questionnaires. The bulk of the respondents replied to the first follow-up (74%) and an additional 6% responded to a postcard reminder. Had the Health Manpower Project failed to conduct any follow-up of the non-respondents, the number involved in the study would have been inadequate for analysis.

Limitations of the Study

The high response rate from the large number of professionals (509) involved in the study suggest that the findings can be considered representative of Washington's speech and hearing manpower. However, the less than 100% response rate, the failure of some respondents to complete all items on their questionnaires and geographic mobility of respondents should be kept in mind. In addition, it is recognized that a completely accurate list of all speech and hearing professionals living in Washington could not be developed since the main source of identifying members of the field was primarily through Washington Speech and Hearing Association records. Hence, the findings may be biased in favor of those professionals with ties to this organization.

FINDINGS[1]

In order to develop a profile of the speech and hearing professionals in Washington, the questionnaire included items on background characteristics. Some of these are directly related to employment status, which is discussed later in the report.

Background Characteristics

More than two thirds (69%) of the speech and hearing professionals living in Washington were female. Three-fourths (74%) of all respondents were married at the time of the survey, less than one fifth were single (17%) and the remaining respondents were widowed, divorced or separated.

AGE: Over half (53%) of the speech and hearing professionals were under the age of 35 years. Of the most recent recruits to the profession, 38% were under age 30. This is a higher percentage than that found in some other occupations. (Eighteen percent of the professional nurses and of the dietetic professionals in Washington state were under age 30.)

TABLE 1. Age Distribution of Speech and Hearing Professionals in Washington

Age	Number	Percent
24 and under	45	10
25-29	127	28
30-34	71	15
35-39	56	12
40-44	48	10
45-49	32	7
50-54	38	8
55-59	17	4
60-64	18	4
65 and over	7	2
	459	100%

[1] Within this report, those respondents who did not reply to the particular question(s) upon which a table or figure is based are excluded from analysis.

PROFESSIONAL EDUCATION: Slightly over half of the respondents possessed a bachelor's degree as their highest educational attainment. Less than 1% had not completed a bachelor's degree requirements. The remaining respondents had attained graduate degrees or certificates.

TABLE 2. Highest Educational Attainment of Speech and Hearing Professionals in Washington

Highest Educational Attainment[1]	Number	Percent
Less than Bachelor's Degree	3	0*
Bachelor's Degree	243	53
Master's Degree	173	38
Doctor of Philosophy	36	8
Other Degrees or Certificates	5	1
	460	100%

*Less than 1%

A majority (62%) of the respondents had attained their highest academic degree in Washington State. A wide variety of states were reported by other respondents. Most frequently specified were California (5%), Oregon (4%), Alabama (3%) and Iowa (3%).

An association of age with educational attainments was explored. Respondents over the age of thirty were more likely than their younger counterparts to have earned graduate degrees. This finding may only reflect the lack of a

1. Washington's speech and hearing professionals are less likely to have obtained advanced degrees compared to membership in the national association. Fifty four percent of the American Speech and Hearing Association members had received advanced degrees in 1964 (2) and this percentage increased in subsequent years.

sufficient time span within which to earn graduate degrees, rather than the implication that younger members of the occupation are less well educated. The percentages earning graduate degrees according to their ages is shown in the following:

TABLE 3. Percentage Within Specific Age Groups Earning A Degree Beyond the Baccalaureate Degree for Speech and Hearing Professionals in Washington

Age	Percentage
24 and under	13%
25-29	40%
30-34	56%
35-39	57%
40-44	62%
45-49	58%
50-54	51%
55-59	56%
60-64	47%
65 and over	40%

PROFESSIONAL MEMBERSHIPS AND JOURNAL SUBSCRIPTIONS: To obtain some indices on involvement or commitment to the field of speech and hearing, questionnaire items were included on professional association memberships and on subscriptions to professional journals.

The two major professional associations for Washington's speech and hearing professionals are Washington Speech and Hearing Association and the American Speech and Hearing Association. Membership in the latter national association requires a Master's degree, or equivalent, in the field of speech and hearing, while membership in the state association does not. Three fourths of the survey respondents were currently members of the Washington Speech and Hearing Association, while only 46% indicated membership in the American Speech and Hearing Association. Membership in other associations was explored and the following table provides details on professional membership.

TABLE 4. Percentage of Respondents Indicating Membership in Associations Related to the Speech and Hearing Field

Association:	Percentage* of Respondents Indicating Membership:
Washington Speech and Hearing Association	75%
American Speech and Hearing Association	46%
National Education Association	16%
Washington Education Association	16%
Council for Exceptional Children	10%
Inland Empire Speech and Hearing Association	7%
Alexander Graham Bell Association	3%
National Association of Speech and Hearing Agencies	1%
American Institute for the Deaf	2%
All Others	20%**

*Percentages do not total to 100% since respondents could indicate more than one association.

**Such as Oregon Speech and Hearing Association, American Physical Therapy Association, Academy of Rehabilitative Audiology. Not included in this table was membership in Greek letter societies, the ASHA "journal group" and purely social associations.

COMPARISON OF ASSOCIATION MEMBERSHIP AND PRIMARY WORK FUNCTION

The frequency with which particular work functions were associated with membership in the major professional associations was explored. In Table 5 somewhat predictable differences among respondents' memberships based on their primary work functions are shown. Those engaging in diagnosis and treatment, for example, are most likely to belong to the Washington Speech and Hearing Association compared to other associations. Perhaps surprisingly, professionals primarily engaged in teaching were most likely to be members of Washington Speech and Hearing Association (77%) rather than members of the two educational associations (14% and 15%). This may reflect maintenance of commitment to the field of speech and hearing (the occupational field of training) rather than the current work task (teaching).

TABLE 5. Membership in Four Major Professional Associations and Primary Work Function of Speech and Hearing Professionals in Washington

	Percent Holding Membership in:			
Primary Work Function	WSHA	ASHA	WEA	NEA
Diagnosis/Training	32%	45%	18%	19%
Administration	100%	69%	30%	26%
Research	67%	100%	33%	33%
Teaching	77%	52%	14%	15%
Consultation	50%	50%	25%	0
Other	100%	83%	33%	17%

Influence of educational background on association membership was insignificant.

Subscriptions to professional journals (regardless of actual reading) was explored in a similar manner through the survey questionnaire. About half of the professionals reported subscribing to the two major journals, the Journal of Speech and Hearing Disorders and the Journal of Speech and Hearing Research. Many other journals reported by respondents related to special education concerns of the child with speech and/or hearing difficulties.

TABLE 6. Percentage of Respondents Subscribing to Speech and Hearing Journals

Journal	% indicating subscription*
Journal of Speech and Hearing Disorders	54%
Journal of Speech and Hearing Research	49%
Council for Exceptional Child	8%
Volta Review	7%
National Education Association Journal	5%
Washington Education Association Journal	5%
Deafness, Speech and Hearing Abstracts	3%
The Exceptional Child	3%
American Annals of the Deaf	2%
All others**	21%

*Percentages will not total to 100% since respondents could indicate more than one journal.

**Such as Journal of Child Development, Journal of Learning Disabilities, Journal of Auditory Research. Not included were Scientific American, Psychology Today and other publications of general scientific and lay interest.

Education seems to be related to subscriptions to professional journals. Nearly half of the respondents with a baccalaureate degree (49%) did not take a journal compared to only 17% of those with an advanced degree or certificiate. Professionals with a baccalaureate degree only were most likely to take one or two journals if they subscribed to any, while professionals with advanced degrees received two to five publications.

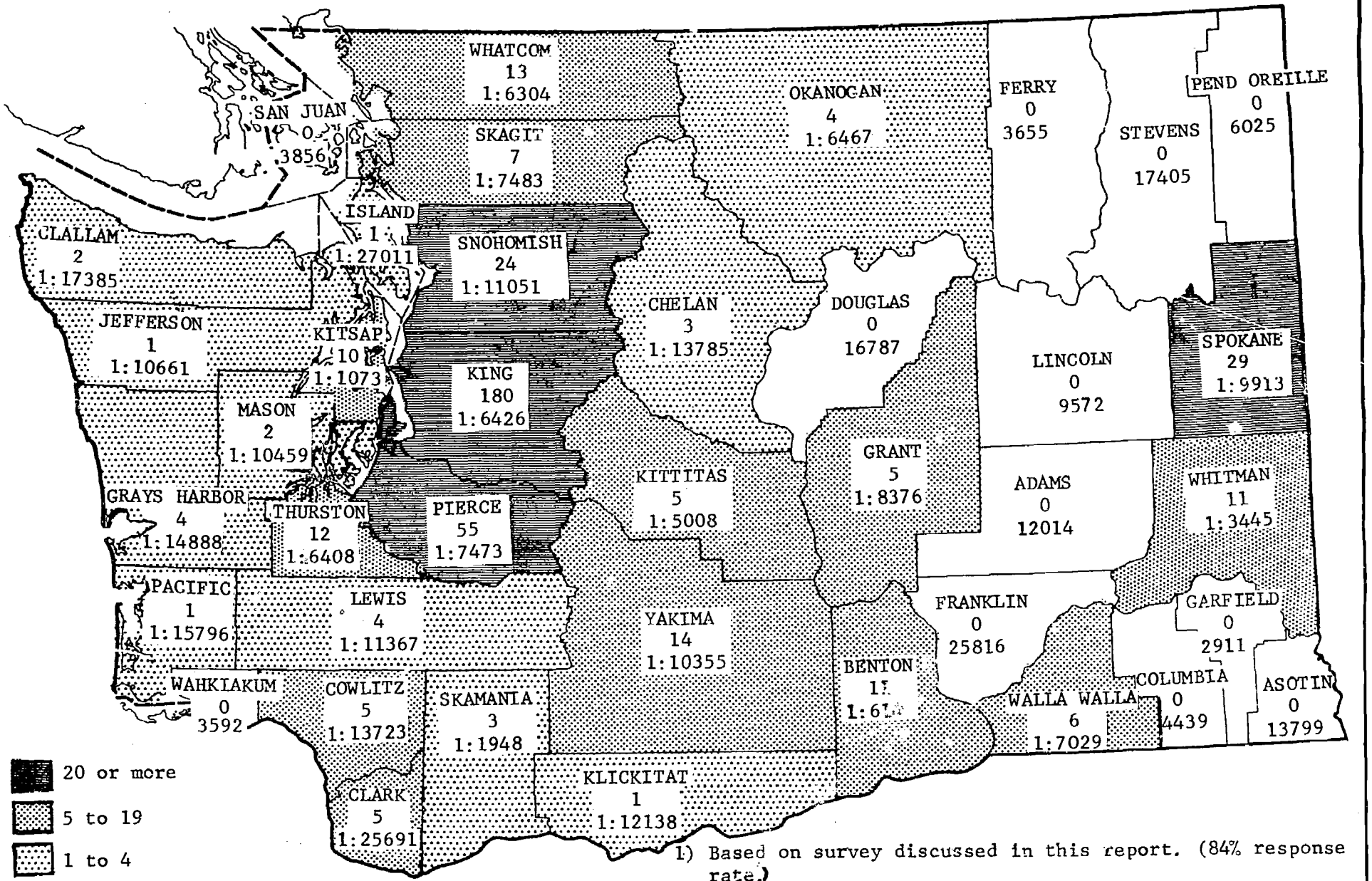
ASSOCIATION MEMBERSHIP AND EMPLOYMENT STATUS: Employed speech and hearing professionals were more likely than those not employed to hold membership in one or more associations. Ninety four percent of the employed speech pathologists, compared to 64% of those not employed and not seeking work were members of one or more professional associations.

SUBSCRIPTIONS TO JOURNALS AND EMPLOYMENT STATUS: There is a difference between employed and not employed professionals when their subscriptions to journals is considered. Over 63% of the employed speech pathologists compared to 48% of those not employed (exclusive of students or retired members) subscribed to one or more professional journals.

RESIDENCE: Washington's speech and hearing professionals reported residence in 30 counties, with the data indicating no professionals residing in nine counties at the time of the survey. Residence was primarily in four urban counties: King (45%), Pierce (12%), Spokane (8%) and Snohomish (6%). When the county of employment was considered, some speech and hearing professionals residing in Washington worked out of state, although the distribution of counties is similar to that for residence. Distribution of reported sites of employment can be seen in the accompanying map of Washington.

FIGURE 1

Number of Washington Resident Speech and Hearing Professionals Currently Active,[1] by County, With Ratio to Population[2]



1) Based on survey discussed in this report. (84% response rate.)

2) Final population counts of 1970 Census of Population, U.S. Dept. of Commerce, Bureau of the Census.

Employment Characteristics

LABOR FORCE PARTICIPATION: Eighty five percent of all speech and hearing professionals living in Washington were employed, and an additional 3% (15 individuals) were seeking work. Six percent of the entire group of respondents were not employed (and not seeking work) and the remaining respondents were retired or students. Of the employed professionals, nearly half were specializing in speech pathology, with about a quarter combining speech pathology and audiology. Details follow:

TABLE 7. Professional Field or Identification Among Employed Speech and Hearing Professionals in Washington

Professional Identification	Number	Percent
Speech Pathologist	188	46%
Audiologist	19	5%
Speech Pathologist/Audiologist	95	23%
Special Education	82	20%
Other Position in the Field	14	3%
Employed Outside the Field	12	3%
	410	100%

EMPLOYMENT STATUS AND EDUCATION: Sixteen percent of those respondents with a Baccalaureate degree as their highest educational attainment and 9% of those with an advanced degree or certificate were unemployed at the time of the survey. This suggests that the further the speech and hearing professional advances in education, the more likely he or she is to be employed. This would verify a similar finding among workers in general and females in particular (3). For example, 67% of women who had completed five or more years of college and 24% with less than 8 years of schooling were in the labor force.

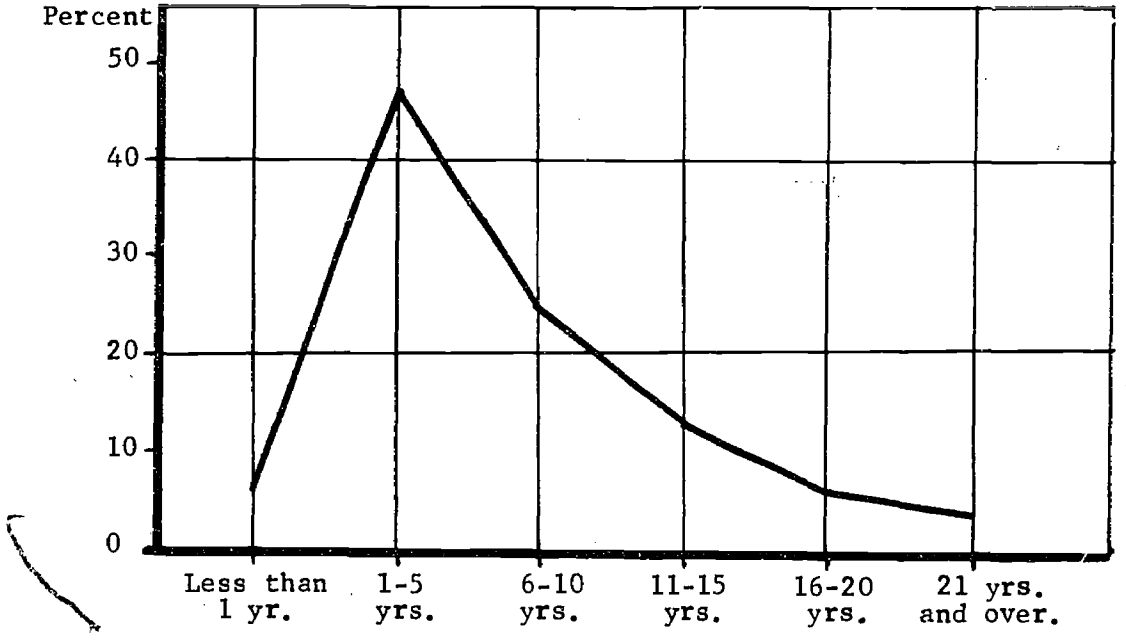
EMPLOYMENT STATUS AND EXPERIENCE IN SPEECH AND HEARING: Respondents reported a range of employment experience in the field from less than a year to over twenty-one years. The least experienced (under six years) were most likely to be unemployed. Eighty percent of the unemployed (exclusive of retired and students) had worked in the field under six years compared to 49% of the employed group.

YEARS OF EXPERIENCE: The questionnaire contained questions on years of full and part-time work experience in the field of speech and hearing. Nearly three fourths of the respondents (71%) had worked less than a year part-time, whereas only 9% had worked less than year full-time. Nearly three fourths of full-time employed professionals had worked one to ten years.

As a measure of total experience, part and full-time years of experience were combined. When speech and hearing professionals were compared to professionals in another field (dietetics and nutrition) which has similar sex composition and length of training, they were more likely to be inexperienced. Thus 30% of the dietetic professionals compared to 53% of the speech and hearing professionals had five or fewer years of total experience. The total experience reported by members of the speech and hearing profession is shown in Figure 2.

FIGURE 2

YEARS OF EXPERIENCE (PART AND FULL TIME) REPORTED BY SPEECH AND HEARING PROFESSIONALS IN WASHINGTON, 1970



NUMBER OF EMPLOYERS AND MAJOR WORK SETTING: Nearly all (91%) of the employed respondents worked for one employer, with five percent specifying more than one and the remaining professionals being self-employed.

Three fourths of the respondents were working in public schools. The next most frequently reported employer was a university or college (9%). Six percent were working in hospitals at the time of the survey. Others reported work settings of speech and hearing centers, governmental agencies and private offices.

The percentage of Washington's speech and hearing professionals employed in the public schools (75%) is somewhat greater than that found among national association members. Slightly over half (56%) of the employed members of the American Speech and Hearing Association were working in public schools (2)

Seventeen percent of the American Speech and Hearing Association's sample of members were employed in universities or colleges compared to 9% of those in Washington State.

EMPLOYMENT SETTING AND YEARS OF EXPERIENCE: Less experienced members of the profession (with five years of experience or fewer) were more likely to be working in schools, hospitals, and speech and hearing centers. Work settings in which there may exist specialized demands such as program planning and administration, university teaching and consultation were associated with greater experience (over five years).

EMPLOYMENT SETTING AND EDUCATION: With increasing education, members of the speech and hearing profession are less likely to be working in the schools and are more frequently employed in such work settings as hospitals, government agencies and universities.

EMPLOYMENT SETTING AND HOURS IN A TYPICAL WEEK: There was some variation in the length of the typical work week when the employment setting was considered. Speech and hearing professionals in government employment and universities were most likely to be working over 40 hours per week or more.

The longest work week was found to be associated with the university setting and medical centers where 39% and 50% were working 45 hours a week or more, respectively. Details on the comparison of work week length with employment settings are shown in Table 8.

TABLE 8. Comparison of Length of Work Week with Type of Employment Setting

Employment Setting:	Hours Worked in Typical Week				Total
	Less than 35	35-39	40-44	45 & over	
Public Schools	17%	22%	56%	5%	100%
Hospital	23%	0	68%	9%	100%
Community Speech & Hearing Center	0	38%	62%	0	100%
Private Office	72%	0	14%	14%	100%
Medical Center	50%	0	0	50%	100%
Government (local, state or federal)	9%	0	82%	9%	100%
Rehabilitation	50%	50%	0	0	100%
University	3%	6%	52%	39%	100%
Other	67%	0	33%	0	100%

PRIMARY WORK FUNCTION: The majority of speech and hearing professionals reported that their major work function was diagnosis and treatment. A fifth reported that teaching was their primary task. Greater detail is shown below:

TABLE 9. Primary Work Function Reported by Speech and Hearing Professionals in Washington

Primary Work Function:	Number	Percent
Diagnosis and Treatment	264	69%
Administration	23	6%
Research	3	1%
Teaching	78	21%
Consultation	8	2%
Other	6	1%
	382	100%

When Washington's employed speech and hearing professionals are compared to a national study of some years ago, greater emphasis on clinical diagnosis and training is reported in Washington. Sixty-nine percent of the Washington professionals compared to 50% of the national respondents were primarily engaged in diagnosis and training. On the other hand, Washington respondents were less likely to be engaged primarily in teaching responsibilities, 21% to

a national average of 34%. The large number of national members working in a university or college setting, rather than in public schools, partly accounts for the higher percentage (2).

PRIMARY WORK FUNCTION AND WORK SETTING: The type of work function reported by the respondents was compared with their work setting. Diagnosis and treatment were most likely to occur in school and rehabilitative settings. As would be expected, teaching as a primary work function was most often associated with the university setting. Professionals working in government settings were more likely than their fellow professionals to be engaged in administration.

TABLE 10. Comparison of Primary Work Function by Work Setting for Speech and Hearing Professionals in Washington.

	Primary Work Function						
Employment Setting:	Diag./ Treat.	Admin.	Research	Teach.	Consult.	Other	Total
Public School	76%	4%	0	17%	2%	1%	100%
Hospital	96%	4%	0	0	0	0	100%
Community Speech & Hearing Center	75%	13%	0	12%	0	0	100%
Private Office	88%	12%	0	0	0	0	100%
Medical Center	100%	0	0	0	0	0	100%
Government (local, state or federal)	33%	42%	0	0	25%	0	100%
Rehabilitation	100%	0	0	0	0	0	100%
University	3%	8%	5%	76%	0	8%	100%
Other	75%	0	25%	0	0	0	100%

A COMPARISON OF PRIMARY TO SECONDARY WORK FUNCTION: When the replies concerning primary and secondary work functions were examined, several combinations appeared frequently. Nearly half (49%) of the respondents engaged in diagnosis and treatment also specified consultation responsibilities. Twenty percent of that group did not report secondary work functions. Forty percent

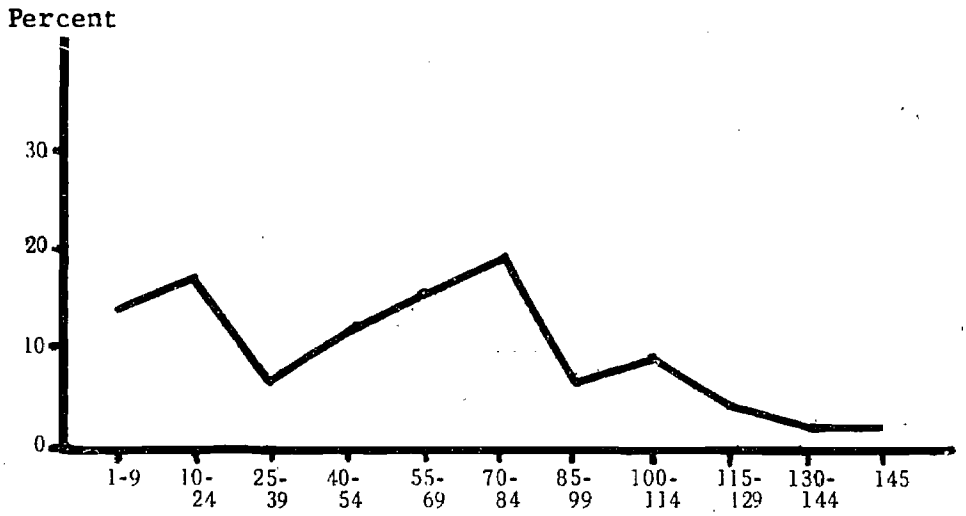
of the administrators (those reporting a primary function of administration) reported consultation (40%) as their secondary function. Those primarily engaged in teaching were likely to be engaged in diagnosis and treatment as a secondary function (41%). Nearly a quarter of the teachers specified that they engaged in no general secondary task.

PRIMARY WORK FUNCTION AND EDUCATION: With increasing education, the percentage of speech and hearing professionals engaging in activities other than diagnosis and treatment increased. Thus 80% of the professionals with a baccalaureate as their highest degree engaged primarily in diagnosis and treatment compared to 67% of those with a Master's degree and only 17% with a Doctor of Philosophy. When the education of professionals engaging primarily in teaching is considered, however, holders of baccalaureate degrees were similar to those with Master's degrees (16% and 18% respectively). The majority of the Ph.D.'s (60%) indicated a primary work function of teaching.

TOTAL CASELOAD: Caseloads ranged from under 10 to over 140. Details can be seen in the following figure.

FIGURE 3

AVERAGE WEEKLY CASELOAD FOR SPEECH AND HEARING PROFESSIONALS IN WASHINGTON, 1970



TOTAL CASELOAD AND EMPLOYMENT SETTING: The largest caseloads were found to be associated with the public school setting. In most other work settings, the caseloads were likely to be under 25 cases in a typical week.

TABLE 11. Number of Cases Seen in a Typical Week for Each Work Setting, as Reported by Speech and Hearing Professionals

	Size of Caseload						
Work Setting:	1-24	25-39	40-54	55-69	70-84	85 & over	Total
Public School	16%	6%	12%	19%	24%	23%*	100%
Hospital	81%	9%	5%	0	0	5%	100%
Community Speech and Hearing Center	57%	14%	14%	0	15%	0	100%
Private Office	86%	14%	0	0	0	0	100%
Medical Center	0	0	0	0	50%	50%	100%
Government (state, local or federal)	60%	20%	0	20%	0	0	100%
Rehabilitation	100%	0	0	0	0	0	100%
University	96%	0	0	4%	0	0	100%

*Of the weekly caseloads beyond 85 cases in the schools, most fell in the 114-124 range, although a few caseloads in excess of 140 cases per week were reported.

AGE DISTRIBUTION OF CASES: The respondents were advised to think of the prior week as representative, unless a situtation such as illness rendered it an atypical work week. The majority of the speech and hearing professionals reported treating patients (cases) below the age of twenty. Fewer professionals specified treating adults (age twenty-one and over).

TABLE 12. Percentage of Employed Respondents Reporting Treating One or More Cases Per Week in Specific Age Categories

Age of Cases	% Reporting one or more cases
Under 6	56%
6-10	70%
11-20	65%
21-64	16%
Over 64	10%

TYPE OF DISORDER: More professionals reported treating functional articulation within their caseloads than any other disorder. Functional articulation is generally considered to be a disorder of moderate rather than great severity (4). Percentages of respondents reporting cases of other disorders are shown in Table 13.

TABLE 13. Percentage of Respondents Reporting Treating One or More Cases per Week for Specific Disorders

Disorder:	% Reporting seeing one or more cases
Functional Articulation	64%
Stuttering	50%
Delayed Speech and Language	45%
Voice Disorders	41%
Hard of Hearing	40%
Cleft Lip and Palate	37%
Mental Retardation	36%
Hearing Testing	23%
Cerebral Palsy	20%
Aphasia	19%
Stroke	12%
Deaf	10%
Laryngectomy	5%
Cancer	5%
Other	13%

CHARACTERISTICS OF WEEKLY CASELOADS: Speech and hearing professionals reported case loads which can be examined for age and disorder.

The majority of professionals treating preschool children had small caseloads, under ten cases per week. Professionals treating elementary school children reported a wide range in caseload size, with nearly a quarter reporting 65 cases per week or more. Respondents reported small caseloads involving secondary school children and adults. This is consistent with a national survey (5). The large caseloads of elementary schoolchildren have provoked discussion within the discipline, with a call for more research on the criteria for case selection regarding articulation problems (4). Since 80% of the total caseload for all grades in a national survey consisted of articulation cases, the possibility of spontaneous improvement in less severe cases is perceived as an important focus for future study.

Disorders connected with stroke, cancer, laryngectomy, cleft lip and palate and voice malfunction were representative of small caseloads. In Table 14 the number of professionals reporting case loads within various age categories and according to disorder is shown.

TABLE 14. Number of Professionals Reporting Caseloads of Specific Sizes, According to Age and Disorder

	CASELOAD SIZE														Total number of professionals	
	1-9		10-15		16-25		26-35		36-45		46-55		56-64		65 and over			
AGE	N.[1]	%	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%	N.	%
Under 6	151	65	43	19	22	10	7	3	4	2	1	0	2	1	1	0	231	100
6-10	60	21	13	4	16	6	21	7	34	12	47	16	29	10	69	24	289	100
11-20	141	53	71	27	38	14	7	3	6	2	1	0	1	0	2	1	267	100
21-64	56	88	3	1	4	6	1	1	1	2	0	0	1	2	0	0	66	100
65 and over	37	93	2	5	0	0	1	2	0	0	0	0	0	0	0	0	40	100
DISORDER																		
Functional Articulation	44	17	10	4	18	7	16	6	32	12	40	15	33	13	69	26	262	100
Stuttering	197	97	6	2	1	0	0	0	0	0	0	0	0	0	0	0	204	100
Delayed Speech & Hearing	174	78	31	14	17	7	2	1	0	0	0	0	0	0	0	0	224	100
Voice Disorder	164	98	3	2	0	0	0	0	0	0	0	0	0	0	0	0	167	100
Hard of Hearing	151	91	10	6	4	2	0	0	0	0	0	0	0	0	1	1	166	100
Cleft Lip and Palate	149	99	2	1	0	0	0	0	0	0	0	0	0	0	0	0	151	100
Mental Retardation	116	78	20	13	7	5	2	1	1	1	0	0	2	1	1	1	149	100
Hearing Testing	64	69	13	14	6	7	4	4	2	2	0	0	0	0	4	4	93	100
Cerebral Palsy	76	95	2	2	3	3	0	0	0	0	0	0	0	0	0	0	81	100
Aphasia	74	95	4	5	0	0	0	0	0	0	0	0	0	0	0	0	78	100
Stroke *	49*	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	100
Deaf	35	83	4	10	2	5	0	0	0	0	0	0	0	0	1	2	42	100
Laryngectomy	18	95	0	0	1	5	0	0	0	0	0	0	0	0	0	0	19	100
Cancer *	19*	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	100
Other	44	85	5	10	2	4	1	2	0	0	0	0	0	0	0	0	52	100

*Of those reporting treating one or more cases of stroke, 65% saw three or fewer cases per week
Of those reporting treating one or more cases of cancer, 80% saw three or fewer cases per week

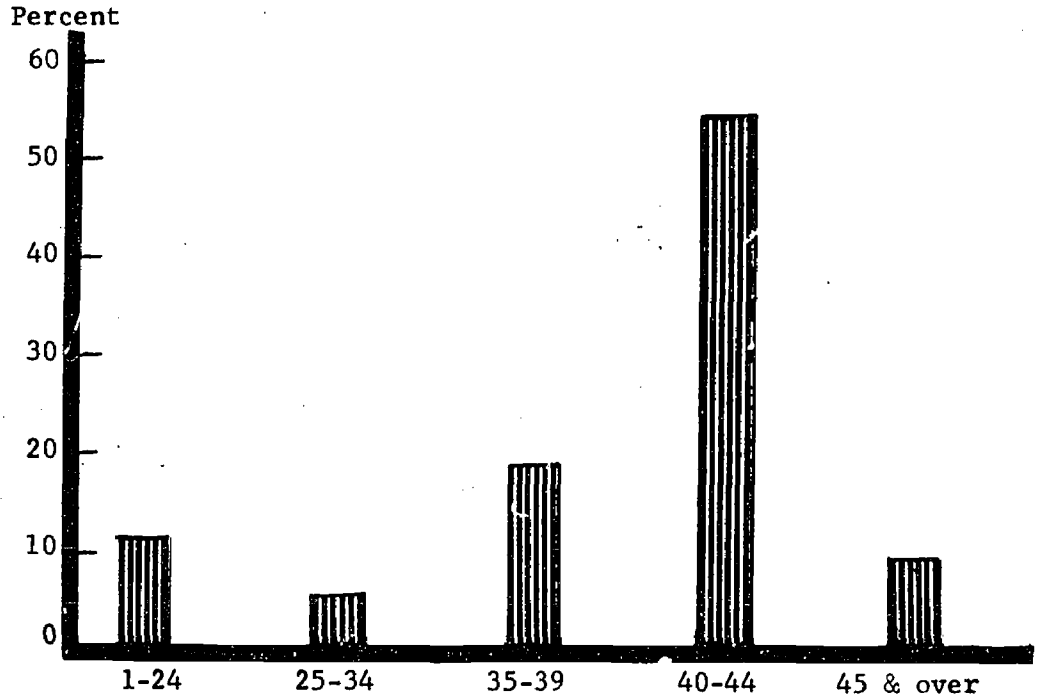
[1] N here refers to number of professionals reporting

TYPE OF WORK WEEK AND HOURS PER WEEK: Eighty percent of the employed respondents were working on a nine-month basis, 18% throughout the year, while the remaining 2% engaged predominately in consultation.

Over three fourths of the employed respondents (83%) were working full-time (35 hours or more per week). Nine percent of the employed professionals were working 45 hours or more per week. Distribution of replies concerning the length of the typical work week can be seen in Figure 4.

FIGURE 4

TYPICAL WORK WEEK AS REPORTED BY SPEECH AND HEARING PROFESSIONALS IN WASHINGTON, 1970



COMPARISON OF ACTUAL LENGTH OF WORK WEEK AND PREFERRED WORK LENGTH:

The respondents were asked to specify the number of hours they would prefer to work in a typical work week. Table 15 indicates that employed professionals working part-time (less than 35 hours per week) were most likely to be "satisfied" with their work week length. As the number of hours worked increases, preference for fewer hours is apparent.

TABLE 15. Comparison of Hours Actually Worked in a Typical Week with the number of Hours Preferred

Number of Hours Actually Working:	Number of Hours Preferred in Typical Week					
	1-24	25-34	35-59	40-44	45 and over	Total
1-24	76% *	4%	2%	7%	11%	100%
25-34	5%	80%	10%	0	5%	100%
35-39	8%	12%	63%	11%	6%	100%
40-44	3%	11%	8%	68%	10%	100%
45 and over	6%	6%	9%	61%	18%	100%

*An underlined percentage reflects individuals who not only work this number of hours weekly but also prefer to work this number of hours.

SEX DIFFERENCES IN BACKGROUND AND EMPLOYMENT CHARACTERISTICS:

Males and females in the field of speech and hearing were compared relative to selected background and employment characteristics.

Men were found to have more academic training than women. Sixty-one percent of the women compared to 29% of the men terminated their higher education with a baccalaureate degree. Twenty percent of the men and 2% of the women had earned a Ph.D. Women were more likely to be younger members of the profession. Forty-five percent of the females and 20% of the males were under the age of 30 years. Females were more often inexperienced. Sixty-two percent of the women and 31% of the men had five or fewer years of experience.

Membership in associations differed according to sex. More males than females were members of professional association, as is shown below for several major associations:

TABLE 16. Membership in Four Associations, by Sex

	Percent Holding Membership			
	WSHA	ASHA	NEA	WEA
Female	73%	40%	14%	15%
Male	81%	61%	23%	21%

Females were slightly less likely to be employed, although their employment rate is high (85%) compared to females in other occupations (6). Of the 27 unemployed respondents, 25 were females.

Females were more often employed in the schools than were males, 83% compared to 64%. Females were working in a wider variety of employment settings than males, who (when employed outside the public schools) were concentrated in government or universities. Females were very unlikely to be employed in the latter two settings.

Patterns existed in the primary work functions of speech and hearing professionals according to sex. Over three fourths (76%) of the females compared to about half (56%) of the males engaged primarily in diagnosis and treatment. Sixteen percent of the males and only 1% of the women reported their primary work task as administration.

These findings, according to sex, are consistent with and confirm findings of a national study of speech and hearing professionals (2).

CONTINUING PROFESSIONAL EDUCATION

The questionnaire contained items on continuing professional education. The speech and hearing professionals were informed that continuing education referred to opportunities for keeping abreast of developments in the field, or to refresh their skills. Examples of inservice training, academic and short-term courses (excluding those taken to meet degree requirements) and workshops were mentioned to illustrate the concept of continuing education. Respondents first were asked about their actual participation and then about their attitudes toward such aspects of continuing education as preferred content and length.

PARTICIPATION IN ACADEMIC AND SHORT-TERM/WORKSHOP COURSES: Seventy-nine percent of the speech and hearing professionals had taken one or more academic courses (excluding courses to meet degree requirements) within the last five years. Over half had taken four or more such courses.

An even higher percentage of the respondents had participated in short-term courses and workshops in the last five years. Eighty-five percent had taken one or more such informal courses or workshops. The bulk of participation, however, was one to three courses.

Participation in continuing education seems higher than some other health occupations. For example, 21% of the dietetic professionals in Washington had participated in academic coursework and 79% in short-term/workshops during the same period of time (7).

THE NUMBER OF EDUCATIONAL OPPORTUNITIES PERCEIVED AVAILABLE: A sizeable minority of the speech and hearing professionals (43%) felt that the number of continuing educational opportunities available was too few. About the

same percentage (44%) were satisfied with the number available and smaller percentages felt either that there were too many opportunities or had no opinion on this issue.

THE SUITABILITY OF AVAILABLE SUBJECTS: The respondents were asked whether they felt the subject matter or content of available opportunities was suitable for their own needs. Again, a sizeable minority (45%) indicated they would prefer to see additional topics offered. Forty-six percent were satisfied with the content of available opportunities and the remaining respondents had no opinion.

Many respondents suggested subject matters for continuing education, as follows:

TABLE 17. Suggested Subject Matters for Continuing Education

Subject Suggested as Needed	Number	Percent of All Respondents to the Study
Language Development	66	14%
Speech Pathology	35	7%
Stuttering	27	6%
Learning Disorders	18	4%
Hard of Hearing	18	4%
Voice Disorders	15	3%
Audiology	13	3%
Cleft Lip and Palate	13	3%
Psychology-Linguistics	13	3%
Deaf Education	12	3%
Behavior Modification	11	2%
Aphasia	11	2%
Public School Therapy	9	2%
Cerebral Palsy	8	2%
Laryngectomy	4	1%
All Others	20	4%

COURSE LENGTH PREFERRED IN CONTINUING EDUCATION: No preference was voiced for particular course length. About a fifth of the respondents mentioned either short-term course, the workshop, the academic quarter, or a combination of these.

TIME OF COURSE: The highest (39%) preference was for evening, 23% specified daytime courses, 8% suggested weekends and all others either a combination of times or had no opinion on that matter.

A majority of the respondents were in favor of continuing education through television.

EMPLOYMENT STATUS AND PERCEIVED AVAILABILITY OF CONTINUING EDUCATION:

The study clarified the fact that employed professionals were likely to feel that continuing education opportunities were limited while those who were not employed either had no opinion on the subject or were more likely satisfied with the current situation.

This concludes the report on speech and hearing professionals living in Washington. The respondents were seen to be similar to speech and hearing professionals responding to a national study of several years ago, with the exception that Washington's speech and hearing professionals were more likely to have earned only a baccalaureate degree as their highest attainment, and to be employed in the public schools. It is hoped that this pilot study will provide information for occupational and health planning regarding Washington's speech and hearing manpower.

APPENDIX

DANIEL J. EVANS
GOVERNOR
WALLACE LANE, M.D., M.P.H.
DIRECTOR

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
PUBLIC HEALTH BUILDING, OLYMPIA AIRPORT, OLYMPIA, WASHINGTON 98501

HEALTH MANPOWER PROJECT
Room 815, Smith Tower
Seattle, Wash. 98104

February 19, 1970

Dear Speech and Hearing Professional:

The Health Manpower Project, Washington State Department of Health and the Washington/Alaska Regional Medical Program, in cooperation with the Washington Speech and Hearing Association, are sponsoring a study of the speech and hearing profession.

Completion of the enclosed questionnaire is very important. This will help us to:

1. estimate present and future manpower supply in your profession for Washington State;
2. produce guidelines for continuing education;
3. assess the educational level of Washington's speech and hearing professionals;
4. identify trends in professional placement.

The importance of your profession to preventive, therapeutic, and rehabilitive health care is well recognized.

Please return your questionnaire as soon as possible. All replies are confidential and will be expressed in statistical form only.

Thank you for your cooperation.

Yours sincerely,

Ilse J. Volinn, Ph.D.
Project Director
Health Manpower Project

Lawrence J. Sharp, Ph.D.
Associate Director for
Research and Development
Washington/Alaska Regional Medical Program

Enclosure

DANIEL J. EVANS
GOVERNOR
WALLACE LANE, M.D., M.P.H.
DIRECTOR

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
PUBLIC HEALTH BUILDING, OLYMPIA AIRPORT, OLYMPIA, WASHINGTON 98501

HEALTH MANPOWER PROJECT
Room 815, Smith Tower
Seattle, Wash. 98104

March 27, 1970

Dear Speech and Hearing Professional:

The Health Manpower Project, Washington State Department of Health and the Washington/Alaska Regional Medical Program, in cooperation with the Washington Speech and Hearing Association, are conducting a study of your profession.

Your part in this survey is very important. Please complete the enclosed questionnaire and return it as soon as possible. Your response will help us to assess the:

a. Supply and distribution of manpower resources in the Speech and Hearing profession for Washington;
b. Demand for continuing education.

All replies are confidential and will be presented in statistical summaries only.

Please! Complete and return your questionnaire to us in the enclosed envelope.

Yours sincerely,

Ilse J. Volinn, Ph.D.
Project Director
Health Manpower Project

Lawrence J. Sharp, Ph.D.
Associate Director for
Research and Development
Washington/Alaska Regional Medical Program

Enclosure

HEALTH MANPOWER PROJECT
WASHINGTON STATE DEPARTMENT OF HEALTH

Research Form: Field of Speech and Hearing

Name_____

1. Residential Address: City_____County_____State_____Zip Code_____

2. Professional Address: City_____County_____State_____Zip Code_____

3. Date of Birth_____

4. Marital Status:

   1. Single
   2. Married
   3. Divorced or Separated
   4. Widowed

5. Sex:

   1. Male 2. Female

Ages of Children_____

6. In Which of the Following Associations Are You a Member:

   1. Washington Speech and Hearing Association
   2. American Speech and Hearing Association
   3. Other (Specify)_____

7. To Which of the Following Journals Do You Subscribe:

   1. Journal of Speech and Hearing Disorders
   2. Journal of Speech and Hearing Research
   3. Others (specify)_____
      _____

8. What is the TOTAL NUMBER OF YEARS you have been employed in the field of speech and hearing?

   1. None
   2. _____Years (Full-time)
   3. _____Years (Part-time)

9. Are You: (Circle one)

EMPLOYED in the Field of Speech and Hearing:	1. as a speech pathologist
	2. as an audiologist
	3. both as a speech pathologist and audiologist
	4. other (specify)_____
EMPLOYED outside the Field of Speech and Hearing	5. specify occupation _____ (Go on to Question 18)
UNEMPLOYED	*6. not employed and seeking work
	*7. not employed and not seeking work (except retired or student)
	*8. retired or student

* Please go on to Question 18

10. Are You:

1. Self-employed
2. Employed by one organization
3. Employed by more than one organization (specify number)_____

11. Would you describe your major employment setting as: (if you have more than one employment indicate the one at which you spend most of your time.)

1. A Public or Private School
2. A Hospital
3. A Community Speech and Hearing Center
4. Private Office
5. Private Medical Center or Group (of Physicians)
6. Local, State or Federal Agency
7. Rehabilitation Center
8. College or University
9. Other (specify)_____

12. PLEASE CIRCLE YOUR PRIMARY AND SECONDARY WORK FUNCTIONS:

PRIMARY (Circle ONE only)	SECONDARY (Circle ONE only)
1. Diagnosis and Treatment	1. Diagnosis and Treatment
2. Administration	2. Administration
3. Research	3. Research
4. Teaching	4. Teaching
5. Consultation	5. Consultation
6. Other (specify)_____	6. Other (specify)_____
	7. I have no secondary work function.

13. We want to explore in some detail the professional activities of speech pathologists and audiologists. If the past week was a "typical" work week, please refer to it. If you feel it was "atypical" (due to illness, etc.) refer to the most recent "typical work week."

This question is concerned with the ages of your cases. In Section 1 specify the number of DIFFERENT cases seen during the week for each age category. Then proceed to Section 2 and estimate the number of sessions held.

Age Group	1) Approximate number of different cases seen in "typical" week	2) Approximate number of sessions in "typical" week
Under 6 years	_____	_____
6-10 years	_____	_____
11-20 years	_____	_____
21-64 years	_____	_____
65 years and over	_____	_____

14. The following question refers to organic and functional disorders. Again, refer to the past or most recent "typical" work week. In Section 1 please specify for each disorder the number of different cases seen. Then proceed to Section 2 and specify the number of sessions held.

DISORDER	1) No. of different cases seen in "typical" week	2) No. of sessions in "typical" week
Functional Articulation	_____	_____
Aphasia	_____	_____
Cleft lip and palate	_____	_____
Laryngectomy	_____	_____
Voice disorders	_____	_____
Stuttering	_____	_____
Cerebral Palsy	_____	_____
Delayed speech and language	_____	_____
Mental retardation	_____	_____
Hearing disorders		
Deaf	_____	_____
Hard of hearing	_____	_____
Hearing testing	_____	_____
Other	_____	_____

15. Please specify the number of cases and sessions spent in a typical week with patients whose speech problems are associated with stroke or cancer.

	No. of different cases seen in "typical" week	No. of sessions in "typical" week
Patients with stroke	_____	_____
Patients with cancer	_____	_____

16. Do you work: (Please specify a. or b.) Hours per week

1. regularly a. throughout the year _____
   b. on a 9 month basis _____

2. irregularly: please specify_____ _____

17. Please return to question 16 and specify the number of hours in a "typical" week.

18. How many working hours would you find most desirable? (specifv one answer)

1. In a typical work week (specify hours) _____
2. On a non-weekly basis (specify preferred arrangement)_____
3. I prefer not to work at all.

FORMAL EDUCATION

19. Please circle all that apply:

1. I have less than a Baccalaureate Degree (specify number of years in college)
   1 2 3 4
2. Baccalaureate Degree
3. Master's Degree
4. Ph.D.
5. Other Graduate Degree (specify which)_____

20. In which state was your last degree granted:_____

CONTINUING EDUCATION

21. Within the last five years, how many of the following courses have you attended. (Exclude courses taken to meet degree requirements)

A. Academic courses: (Quarter or Semester)	1. None 2. One to three 3. Four or more
B. Short-term courses or workshops:	1. None 2. One to three 3. Four or more

22. We would like to know if you feel that currently there are adequate opportunities to keep abreast of developments in your profession.

These educational opportunities might inlude a workshop in an academic or work setting, a short-term course, or a regular college course. Topics would include issues of interest in the field such as current clinical approaches, theoretical issues, new equipment developments, etc.

A. The number of educational opportunities (circle one):

1. Are too few for your own needs
2. Are adequate for your own needs
3. Are more than adequate for your own needs
4. Have no opinion

B. Regarding the subject matter or content of course:

1. Have, in general, been suitable for your needs
2. Would prefer continuing education related to the following subject: (specify subject or area)_____
3. Have no opinion

C. Regarding course length, do you prefer:

1. academic quarter or semester courses
2. short-term courses
3. workshops
4. no preference

D. Would you prefer to take:

1. Courses scheduled in the evening
2. Courses scheduled in the daytime
3. Courses scheduled for a weekend
4. No preference

E. Would you be interested in continuing education offered on Television?

1. Yes
2. No

23. If you are not employed in the field of speech and hearing which of the following best describes the reason:

1. Prefer not to work outside the home
2. My husband does not want me to work
3. Salaries do not make working worthwhile
4. I feel I have forgotten the skills required for employment
5. Other (specify)_____

THANK YOU

You recently received a questionnaire designed to help estimate Washington's manpower in your profession. This is the first major study of your field which is increasingly being recognized as crucial to total health care.

PLEASE! Complete and return your questionnaire to:

Health Manpower Project
815 Smith Tower
Seattle, Wa 98104

(206) 464-6883

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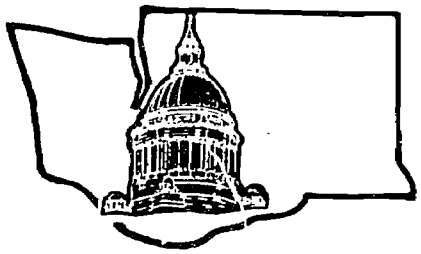

DANIEL J. EVANS
GOVERNOR

No person in the State of Washington shall, on the ground of sex, race, color, national origin, be excluded from participation in, or be subjected to discrimination under any program or activity administerd or supervised by the Washington State Department of Social and Health Services.

DIVISION OF HEALTH

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