Survey of state licensing and education agency regulation of speech-language pathology paraprofessionals' registration and training

Mary McCormick Keeney
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A SURVEY OF STATE LICENSING AND EDUCATION AGENCY REGULATION OF SPEECH-LANGUAGE PATHOLOGY PARAPROFESSIONALS’ REGISTRATION AND TRAINING

By
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B.A., University of Montana, 1987
Presented in partial fulfillment of the requirements for the degree of Master of Arts
UNIVERSITY OF MONTANA
1990

Approved by:

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Chairman, Board of Examiners

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Dean, Graduate School

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FEB. 26, 1990
Date
The purposes of the present study were to identify the number of agencies which report utilizing speech-language pathology paraprofessionals, and to investigate the existence and nature of guidelines, rules or regulations pertaining to the registration and training requirements for such personnel, as reported by state education and licensing agencies. Training guidelines, identified at the state level, were then compared to training guidelines established by the American-Speech-Hearing-Language Association. Finally, the relationship between the use of paraprofessional personnel and various state factors, including classification as urban versus rural and minimum educational requirements for practicing speech-language pathologists was examined.

A telephone survey was completed by individuals at 40 education agencies and at 29 licensing agencies. The utilization of speech-language pathology paraprofessionals was reported by 24 education agencies and 16 licensing agencies. Of 45 states and the District of Columbia represented in the survey, 72% reported that paraprofessionals were utilized in some capacity.

Of 40 agencies which reported utilizing paraprofessionals, 13 indicated registration of such personnel was mandatory. Ten of the 40 agencies indicated there were training guidelines for speech-language pathology paraprofessionals. Only 8 agencies could report the actual number of paraprofessionals employed.

Copies of 6 of the 10 identified training guidelines were received and analyzed. Two of the guidelines included training in at least the seven areas recommended by ASHA guidelines. The remaining 4 guidelines lacked sufficient detail to allow a comparison to ASHA guidelines.

A Chi-square statistical analysis indicated no significant relationship between the utilization of paraprofessionals and professional educational requirements. A similar analysis indicated no significant relationship between the utilization of paraprofessional personnel in urban versus rural states. However, a post-hoc analysis (gamma=.51) demonstrated a trend towards rural education agencies utilizing paraprofessional personnel more frequently than did urban agencies.

The results of the present study indicated a lack of coordination among agencies and between agencies and the national professional organization (ASHA) with regard to the utilization and training of speech-language pathology paraprofessionals. Few agencies could report the number of paraprofessionals employed. Alternative means of identifying such personnel were suggested.
ACKNOWLEDGEMENTS

I would like to thank Barbara Bain, Beverly Reynolds and Bill McBroom for serving as committee members. A special thanks to Richard and Hannah Keeney, Jack and Judy McCormick, and Mary McCormick; who knew I could do it.
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The general definition of a paraprofessional is a trained aide who assists a professional person. The American Speech-Hearing-Language Association (ASHA, 1981) defines a paraprofessional or "Communication Assistant" working in the field of speech-language pathology as "...any person who, following academic or on-the-job-training, provides clinical services as prescribed and directed by a certified audiologist and/or speech pathologist" (p.166). Both the general definition of paraprofessional and the definition specific to speech-language pathology include some component of "training". Guidelines for the training of speech-language pathology paraprofessionals have been established by the American Speech-Hearing-Language Association (ASHA, 1981). However, the extent and degree to which these guidelines have been implemented by state licensing and education agencies has not been identified.

The purpose of the present study was to identify the number of state agencies which report utilizing speech-language pathology paraprofessionals, and to investigate the existence and nature of guidelines, rules or regulations pertaining to the registration and training requirements for such personnel, as reported by state education and licensing agencies. Training guidelines identified at the state level were then compared to...
training guidelines established by the American-Speech-Hearing-Language Association. Finally, the relationship between the use of paraprofessional personnel and various state factors, including classification as urban versus rural and minimum educational requirements for practicing speech-language pathologists was examined.

The remainder of this chapter will be organized as follows: a brief overview of the background and history of the use of paraprofessional personnel in the United States, a review the literature related to the issue of training paraprofessional personnel to assist the certified speech-language pathologist in the provision of direct clinical services to the communicatively handicapped, a summary and a statement of the problem.

**A History of the Use of Paraprofessionals in Speech-Language Pathology**

Pickett (1984) reported that paraprofessional workers were probably first employed in the human services in the United States in the settlement housing projects of the early 1900s. He stated that the use of these "non-professional" workers increased during the 1930s with the advent of the Social Security Act of 1935, the Works Progress Administration and the National Youth Administration. Paraprofessionals are currently utilized in a multitude of disciplines including
education (White, 1984), gerontology, nursing, medicine, dentistry, physical therapy (Lake County Area Vocational Center, 1986), home health care, occupational therapy, pharmacy, optometry (Florida State Department of Education, 1987), and special education (White, 1984) as well as in speech-language pathology.

The pervasive use of supportive personnel in the human services may in part be traced to a "...rediscovery of the potential for utilization of paraprofessionals [which] began in the late 1950s and 1960s when administrators and service providers, confronted by a shortage of professional staff personnel, began to look for alternative means of providing services in order to alleviate an emerging promise/performance gap throughout the human services." (Pickett, 1984). This emerging gap would be exacerbated in the special education fields with the de-institutionalization movement of the 1970s and the passage of laws such as PL 94-142, mandating the provision of appropriate educational services to all handicapped children. "The advent of PL 94-142 in 1975 presented an immediate, intense, and continuing need for increased services to handicapped children in the public schools. The use of supportive personnel is one way to provide increased services." (Neidecker, 1989, p. 69-70).
The increased demands for services for children with special needs may have been at least partially the impetus for the change in the role of paraprofessionals in education. White (1984) described this change in roles as a movement "from housekeeper to instructor" (p 46). He stated that aides were originally employed to free the classroom teacher from performing non-instructional duties. White (1984) stated that many educators became dissatisfied with this perceived underutilization of a potentially valuable resource, and paraprofessionals began to play an instructional role in education. Thus the role of the paraprofessional worker expanded to include providing instructional services in education and special education, and perhaps paved the way for paraprofessionals to provide similar services in speech-language pathology.

Acknowledgement that trained paraprofessionals might provide such services to the communicatively handicapped occurred as early as 1967, when Ptacek (1967) predicted the use of properly selected, trained and supervised supportive personnel. He envisioned paraprofessionals assisting the speech-language pathologist in such tasks as articulation drills and the audiologist in speech reading and auditory training activities. Ptacek did not, however, suggest what might
constitute proper selection, training or supervision of such personnel.

The earliest report of using paraprofessionals to provide direct clinical services was a 1967-68 pilot project in the Denver, Colorado public school system (Alpiner, Ogden & Wiggins, 1970). This pilot project employed 10 "speech aides" to assist with articulation and language therapy as well as perform a variety of clerical duties. Thus, paraprofessionals have been utilized in speech-language pathology for at least two decades.

During the 1970s, references to utilizing paraprofessional personnel in speech-language pathology/audiology increased in the literature (Braunstein, 1972; Galloway & Blue, 1975; Gray & Barker, 1977 Guess, Smith & Ensminger, 1971; Lynch, 1972; Miller, Otermat, Perbix, Love & Hargraove, 1974; Pickering & Dopheide, 1976; Scalero & Espanazi, 1976). Again this increase may be related to the passing of PL 94-142: "With the advent of PL 94-142 in 1975, requiring a free public education for all handicapped children, there arose an immediate and intense concern for the acquisition of additional professional personnel to meet the increased need for services to handicapped children in the public schools. Several states saw the use of supportive personnel as a viable mechanism for
obtaining needed personnel in a relatively short period of

Speech-language pathology paraprofessional personnel are
currently utilized to provide supervised direct services to the
communicatively handicapped. Paraprofessionals who are
working under the supervision of ASHA certified speech-
language pathologists may provide direct services only under
the prescription and direction of the certified speech-language
pathologist. Direct services to the communicatively
handicapped may include aspects of assessment and
intervention. Direct clinical services include remediating
specific disorders including articulation disorders (Costello &
Schoen, 1978; Galloway & Blue, 1975; Gray & Barker, 1977;
Scalero & Eskanazi, 1976), and language disorders (Braunstein,
1972); and in conducting screenings for speech and language
disorders (Pickering & Dopheide, 1976). Paraprofessionals have
also been utilized to work effectively with specific populations
including individuals who are trainably mentally retarded
(Miller et al., 1974) and individuals who are deaf-blind
(Jensema, 1978). A 1986-87 omnibus survey conducted by
ASHA indicated that paraprofessionals were "...utilized in some
capacity in most aspects of speech pathology and audiology
evaluation and treatment." (p. 31). Twenty-six percent of the
participants in the ASHA survey indicated that
Paraprofessionals were employed in their primary employment setting. The Omnibus Survey used a stratified sampling method to select 4,000 ASHA members out of 42,859 to participate in the survey. Because of the limited number of speech-language pathologists participating in the survey, and because not all practicing speech-language pathologists are members of ASHA, the incidence and prevalence of paraprofessionals personnel currently working in clinical settings is unknown.

Paraprofessionals are being utilized in a variety of clinical settings, and indications are that the utilization of these personnel will increase. One such indication is the ASHA Committee on Personnel and Service Needs in Communication Disorders' recommendation that professionals be prepared at the graduate and continuing education level to provide supervision for supportive personnel (i.e. paraprofessionals) (ASHA, 1988). This recommendation may reflect an anticipated need for greater numbers of professionals to serve in this supervisory capacity. Katherine Adam, the Chairperson of ASHA's Committee on the Use of Supportive Personnel likened the increase in the utilization of paraprofessionals to a "groundswell" which has gone un-noticed by many members of the profession. She attributed the increase in the utilization of supportive personnel to the fact that some professionals are
"realizing for the first time that we don't have to have professional persons to do some of the things we do with clients" (Personal Communication, 1989).

In summary, the utilization of speech-language pathology paraprofessional personnel in the United States is not a new phenomenon; reports in the literature date from the late 1960s. In the author's experience, the use of paraprofessionals to provide direct services to the communicatively handicapped has been controversial, although the identified literature does not reflect the controversies. The controversies have included whether paraprofessionals should provide direct services, and if so, what constitutes adequate training to prepare them to provide such services. In spite of the controversy, whether or not paraprofessionals should be so utilized has become a moot point. The issue now is how they are being trained and utilized.

Training of Paraprofessionals: A Review of the Literature

No identified study investigated the relationship between the training received by paraprofessionals and their clinical effectiveness. Nonetheless, at least inferential support is in the literature for the argument that paraprofessionals should be trained in order to provide effective direct services to the communicatively handicapped population. This argument
certainly has a great deal of face validity. In every identified case reported in the literature, paraprofessionals who effectively provided services to the communicatively handicapped were reportedly trained, although the amount and type of training varied widely (Alpiner et al., 1970; Braunstein, 1972; Costello & Schoen, 1978; Galloway & Blue, 1975; Gray & Barker, 1977; Guess et al., 1971; Lynch, 1972; Miller et al., 1974; Pickering & Dopheide, 1976; Scalero & Eshanazi, 1976). In each of these studies, trained paraprofessionals reportedly provided effective direct services to the communicatively handicapped. No case reported paraprofessionals providing effective direct services without receiving some training. Little is known, however, about training requirements for paraprofessionals employed in clinical settings in the United States.

ASHA supports the training of paraprofessionals, as indicated by its guidelines for the utilization of paraprofessionals, which address the areas in which paraprofessionals should be trained. ASHA's guidelines suggest, as a minimum, that paraprofessionals be trained in seven areas: 1) normal processes in speech, language and hearing; 2) disorders of speech, language and hearing; 3) behavior management skills; 4) response discrimination skills; 5) program administration skills; 6) equipment and materials; and, 7) an overview of
professional ethics and their application to the assistant's activities.

Training topics identified in the literature, which often preceded the publication date of the ASHA guidelines, indicated partial agreement that these are appropriate areas of training. The topics identified in the literature included administration of programmed instruction, principles of reinforcement and punishment, and discrimination and recording of correct versus incorrect responses (Galloway & Blue, 1975; Costello and Schoen, 1978), speech screening, phonetics, ear training, and use of programmed speech materials (Galloway and Blue, 1975), general knowledge of the role of paraprofessionals, and of speech and language disorders, instruction in logging activities, and practice in discriminating correct versus incorrect responses (Scalero and Eskinazi, 1976), and observation of a certified speech-language pathologist providing therapy (Braunstein, 1972). In some studies, the training topics were clearly dictated by the tasks the paraprofessionals were to complete. For example, all identified studies which utilized paraprofessionals to provide articulation remediation included training in discrimination of correct versus incorrect productions of target sounds. But even when the tasks to be completed were similar variation was present in the training topics covered. For example, both Gray & Barker
(1977) and Costello & Schoen (1978) utilized paraprofessionals to administer programmed articulation instruction to children with deviant articulation. Although the tasks the paraprofessionals were charged with were similar, their training was not. Gray & Barker reported training limited strictly to the administration of the articulation program, followed by written and performance tests. Costello & Schoen (1978) trained paraprofessionals in administration of the articulation program as well as in principles of reinforcement and punishment, followed by performance tests. Both studies compared the effectiveness of paraprofessionals with certified speech-language clinicians who received identical training. Each presented data indicating no significant differences in the treatment effectiveness between the clinician-treated and paraprofessional-treated groups. However, concluding that the two training approaches were equally effective in preparing paraprofessionals to provide articulation remediation is inappropriate. The paraprofessionals in the Costello & Schoen study treated deviant /s/ production only, while those in the Gray and Barker study treated deviant /s, θ, ʃ, l, ʃ, t, tʃ, p/ and s-blends.

Thus the literature indicates only limited agreement among researchers regarding the range and breadth of training topics which are adequate to prepare speech-language pathology
paraprofessionals to provide supervised direct clinical services. Professionals' reservations regarding the adequacy of paraprofessionals' training were voiced even in the earliest studies and projects utilizing paraprofessionals. Supervising clinicians participating in a pilot program utilizing paraprofessionals (Alpiner et al., 1970) offered several possible factors for negative attitudes expressed by clinicians toward paraprofessionals, including doubt that the aides' limited training prepared them to work effectively with children. However, until the publication of ASHA's guidelines on the use of supportive personnel in 1978, (ASHA 1978, as cited in ASHA, 1981) clinicians and researchers had no national guidelines regarding what might constitute appropriate training for such personnel.

Statement of the Problem

Anecdotal evidence indicates that paraprofessionals are widely utilized in speech-language pathology, and that aides who receive training are effective in providing clinical services. Little is known, however, about the prevalence of the use of paraprofessionals, or about the existence and nature of guidelines for paraprofessional training.

The literature supports the premise that trained speech-language pathology paraprofessionals can provide effective direct services to communicatively handicapped persons.
Anecdotal evidence exists which indicates that inadequately trained paraprofessionals may actually do harm when providing services to clients with communication disorders. For example, if speech and/or language therapy is prescribed and directed by a certified clinician, but provided by an inadequately trained paraprofessional, the client's progress in therapy may be impeded or minimized. The consequences of an untrained or inadequately trained paraprofessional providing swallowing therapy or simply feeding a dysphagic client may be physically harmful or even fatal. The harm communicatively handicapped individuals may suffer if services are provided by untrained or inadequately trained paraprofessionals constitutes a compelling reason to investigate the training requirements for paraprofessionals working in clinical settings.

ASHA (1981) published guidelines which recommend that adequate training of paraprofessionals include, at a minimum, training in seven areas. These areas are detailed in Chapter II and address topics such as speech, language, and hearing disorders and behavior management. The extent and degree of compliance with these guidelines at the state level is unknown. The following research questions were addressed by the present study:
The first question examines the prevalence and incidence of speech-language pathology paraprofessionals. Specifically, in how many states and in what numbers are speech-language pathology paraprofessionals currently employed in clinical settings in the United States, as reported by state education and licensing agencies?

State agencies which have no registration or licensure requirements for paraprofessionals are unlikely to have any other guidelines, including those which address training. The second question, therefore, is how many state agencies currently require licensure or registration of, or have some other means of identifying, speech-language pathology paraprofessionals?

ASHA's guidelines outline the minimum training paraprofessionals should receive; therefore paraprofessionals should receive training in at least the seven areas recommended by ASHA. The third question is what is the extent and degree of compliance at the state level with ASHA's guidelines for the training of paraprofessionals?

If guidelines at the state level are in place but are not enforced, the mere existence of such guidelines may not be
construed as evidence of adequate paraprofessional training.
The fourth question, then, is what processes exist for enforcing those guidelines, rules, or regulations which are identified?

When training guidelines, rules, or regulations exist within a state agency, the fifth question investigates the mechanics of providing such training. Do state agencies participate in the training of paraprofessionals by providing courses, seminars and/or funding?

Is there a relationship between the presence of training guidelines and the number of paraprofessionals registered or licensed in each state? The sixth question examines whether state agencies with larger numbers of paraprofessionals are more likely to have training guidelines than state agencies with fewer such personnel.

Rural states may employ larger numbers of paraprofessionals for a variety of reasons, including difficulties filling positions with certified clinicians and geographic distances which make it difficult or impossible for the certified clinician to directly provide all services on even an itinerant basis. The seventh question is, do states having a larger proportion of rural areas
employ more paraprofessionals than states which are more urban?

Some states employ a two-tiered certification or licensure process in which the Master's degree is required to work in hospital and clinic settings while a Bachelor's degree is required to work in the public schools. The eighth and final question examines the relationship between state educational requirements for speech-language pathologists/audiologists and the utilization of paraprofessionals. Perhaps agencies that require a minimum of a Master's degree have greater difficulties filling positions than do agencies that require only a Bachelor's degree, and hence the latter may utilize fewer paraprofessionals. Are fewer paraprofessionals employed in state agencies for which certification for employment may be satisfied with a Bachelor's degree than in states which require a Master's degree for similar employment?
Chapter II: Method

A telephone survey was designed to elicit information about the utilization and training of speech-language pathology paraprofessionals. The survey was administered to individuals employed in administrative positions in state licensing and education agencies.

Sample

Thirty-one people employed by state licensing agencies and fifty-one people employed by state education agencies were contacted (N=89). It was originally planned to contact an individual at the District of Columbia's and at each state's education agency and licensing agency, resulting in a subject pool of 102. ASHA reports that fifty states and the District of Columbia had a state education agency; only thirty-eight states and the District of Columbia had a licensure agency for speech-language pathology. The names, addresses, and phone numbers of one individual employed at each of these agencies were provided by Connie Lynch, Director of the American Speech-Hearing-Language Association's (ASHA's) State Liaison Division in September 1989.

A cover letter was sent to each contact person (Appendix A). The cover letter requested participation in a telephone survey, described the general purposes of the survey, and described specifically some of the information which would be required
to complete the survey. The letter also stated the dates during which the telephone survey was scheduled, and stated the approximate length of time the questionnaire would take to complete. Contact persons were encouraged to designate another individual to complete the survey should scheduling or other conflicts arise which would prevent them from participating in the survey. Each letter was sent by certified mail in order to ensure delivery to the appropriate individuals as well as to provide a record of receipt.

**Instruments**

A telephone survey and investigator-administered coding manual were used. The telephone survey identified those state agencies which utilized speech-language pathology paraprofessionals and, of those so identified, which had paraprofessional registration requirements and training guidelines. Respondents were also asked questions related to the provision of training and to the educational requirements for professional speech-language pathologists employed in that state.

The initial version of the telephone survey was pre-tested on a certified speech-language pathologist/audiologist who had served on a state licensure board. Questions which required clarification during the pilot administration were revised. The
final version included bipolar, multiple choice, and open-ended questions (Appendix B).

Procedure

The investigator completed the telephone surveys over a span of five weeks. The length of time required to complete each interview ranged from one to 25 minutes ($\bar{X}=7$ minutes). Individuals who were not contacted after three attempts, and who failed to respond to messages left at the agency where they were employed were designated as "failed to respond".

Respondents employed by state licensing agencies who indicated that their state did not utilize paraprofessionals, or who indicated that their state did not require that speech-language pathology paraprofessionals be licensed or registered were thanked for their participation and the survey was terminated. Respondents employed by state education agencies completed the survey even if they indicated that paraprofessionals were not licensed or registered in their state. It seemed possible that state education agencies might have training requirements for speech-language pathology paraprofessionals employed in public schools which were independent of requirements for state licensure or registration. All respondents were invited to make a comment regarding the utilization and/or training of paraprofessionals (Appendix C).
Respondents employed by either state licensing agencies or state education agencies who indicated that their states had rules, regulations or guidelines addressing the training of paraprofessionals were asked survey questions related to these guidelines. The respondents were then asked to send copies of all relevant rules, regulations, and/or guidelines to the investigator. Respondents were informed that they would be receiving, by registered mail, a postage-paid envelope addressed to the investigator in which to mail the pertinent information. An envelope, along with a letter thanking them for their participation and reminding them of the information required (Appendix D), was mailed to each respondent by registered, return-receipt mail on the same day that the individual completed the telephone survey.

When information from a state agency was not received within 2 weeks of the date on which the postage-paid envelopes were sent, a follow-up phone call was made. The purpose of the phone call was to enquire whether the individual wished to participate in the mail portion of the survey. If the respondent indicated he wished to participate in the survey, the investigator enquired whether an additional envelope was needed. If the respondent answered in the affirmative, a duplicate was sent out on the same day as the follow-up call. Respondents who indicated they wished to
terminate their participation in the survey were thanked for the information provided to date. A summary of the results were sent to each respondent (Appendix E).

Data Analysis

Descriptive tables were constructed for responses to survey items. Frequency counts and prevalence information were compiled for the utilization of paraprofessional personnel, registration requirements and training guidelines. Also compiled was information regarding educational requirements for professional personnel in each state. Information regarding the classification of each state as urban versus rural was also obtained. Chi-square statistical analyses (alpha = 0.05) were used. Inspection of the 2X2 tables constructed for urban vs. rural states' utilization of paraprofessionals and professional educational requirements and the utilization of personnel suggested an association between these variables. Therefore, gamma values were employed as a post-hoc analysis.

A coding manual was completed for each state which provided information regarding paraprofessional training guidelines. The coding manual was designed to parallel the portion of ASHA's training guidelines which recommend areas in which speech-language pathology paraprofessionals should be trained (Appendix F).
A detailed analysis of the relationship between the number of paraprofessionals reported by each state’s agencies and the presence of training guidelines was originally planned. However, because so few states (N=8) were able to report an actual number of paraprofessionals employed the data would not support such an analysis.

The percentage of each state classified as urban was determined by consulting the County and City Data Book, 1988. The median national urban percentage was then determined and states were separated into above- and below-the-median groups. Next, separate 2X2 tables for the education agencies and the licensing agencies were constructed to reflect the use of paraprofessionals by urban versus rural states. A chi-square statistical analysis was used to analyze the information. A Chi-square statistical analysis was used to analyze the relationship between educational requirements for professionals (Bachelor’s versus Master’s as minimum criteria) and the use of paraprofessionals.
Chapter III: Results

The present study examined the incidence and prevalence of speech-language pathology paraprofessionals as reported by education and licensing agencies. Also investigated were the existence and nature of guidelines, rules or regulations pertaining to the registration and training requirements or guidelines for such personnel. Finally, the relationship between the use of paraprofessional personnel and various state characteristics, including classification as urban versus rural and minimum educational requirements for practicing speech-language pathologists was also examined.

Of the 51 education agencies listed by ASHA, 40 completed the telephone survey (78%). Of the 38 licensing agencies listed by ASHA, 29 completed the telephone survey (76%). The combined return rate was 77% (N=69).

Telephone surveys were completed by both licensing and education agencies in 23 states. Surveys were completed by only licensing agencies in 6 states and by only education agencies in 16 states and the District of Columbia. Thirteen of 22 states for which licensing agency data were unavailable are reported by ASHA to have no licensure requirements for speech-language pathology (and thus no licensing agency). No data were available from either agency for 5 states (Table 1).
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<tr>
<td>Maryland</td>
<td>X</td>
<td></td>
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<tr>
<td>Massachusetts</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Michigan</td>
<td>X</td>
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<td>Minnesota</td>
<td>X</td>
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<tr>
<td>Mississippi</td>
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<tr>
<td>Missouri</td>
<td>X</td>
<td></td>
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</tbody>
</table>

*Continued on following page...*
### Table 1: States Listed by Agencies Responding to Telephone Survey

...continued from previous page

<table>
<thead>
<tr>
<th>States</th>
<th>State Education Agencies and Licensing Agencies Completed Survey</th>
<th>State Education Agencies Only Completed Survey</th>
<th>State Licensing Agencies Only Completed Survey</th>
<th>No Data From Either Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montana</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nebraska</td>
<td>X</td>
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<tr>
<td>Nevada</td>
<td>X</td>
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<tr>
<td>New Hampshire</td>
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<td>X</td>
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<td>New Jersey</td>
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<td>X</td>
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<td>New Mexico</td>
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<td>X</td>
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<tr>
<td>New York</td>
<td>X</td>
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<tr>
<td>North Carolina</td>
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<td>North Dakota</td>
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<td>Ohio</td>
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<td>Oklahoma</td>
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<tr>
<td>Oregon</td>
<td>X</td>
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<tr>
<td>Pennsylvania</td>
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<tr>
<td>Rhode Island</td>
<td>X</td>
<td></td>
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<tr>
<td>South Carolina</td>
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<td>South Dakota</td>
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<td>Tennessee</td>
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<tr>
<td>Texas</td>
<td>X</td>
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<tr>
<td>Utah</td>
<td>X</td>
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<td>Vermont</td>
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<tr>
<td>Virginia</td>
<td>X</td>
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<td></td>
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<tr>
<td>Washington</td>
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<td></td>
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<tr>
<td>West Virginia</td>
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<tr>
<td>Wisconsin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wyoming</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2</strong></td>
<td><strong>3</strong></td>
<td><strong>17</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>
Prevalence and Incidence of Paraprofessional Personnel

The first research question addressed the prevalence and incidence of paraprofessional personnel. The question was answered by a compilation and description of data from the telephone survey. Of 45 states and the District of Columbia for which at least one agency completed the survey, in 33 cases (72%) at least one agency reported utilizing paraprofessional personnel. Five states from which no response was received from either agency were excluded. Of 40 reporting education agencies, 24 (60%) reported that paraprofessionals were utilized in their states. Of 29 reporting licensing agencies, 16 (55%) reported that paraprofessionals were utilized in their states (Table 2). Agencies in eight states reported the number of registered paraprofessional personnel. The number of paraprofessionals reported ranged from 8 to 153 ($\bar{X}=27$).

Registration Requirements and Training Guidelines

The second question addressed the registration requirements for speech-language pathology paraprofessionals. This question was answered by analyzing the data compiled from the telephone survey.

Twenty-four education agencies reported the utilization of paraprofessionals. Of those, 5 reported registration requirements for paraprofessionals and 5 reported training guidelines.
<table>
<thead>
<tr>
<th>Licensing Agencies</th>
<th>Education Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>Arizona</td>
</tr>
<tr>
<td>Delaware</td>
<td>Arkansas</td>
</tr>
<tr>
<td>Florida</td>
<td>California</td>
</tr>
<tr>
<td>Georgia</td>
<td>Connecticut</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Hawaii</td>
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<tr>
<td>Indiana</td>
<td>Idaho</td>
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<tr>
<td>Iowa</td>
<td>Illinois</td>
</tr>
<tr>
<td>Louisiana</td>
<td>Indiana</td>
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<tr>
<td>Maine</td>
<td>Iowa</td>
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<tr>
<td>Maryland</td>
<td>Kansas</td>
</tr>
<tr>
<td>Missouri</td>
<td>Kentucky</td>
</tr>
<tr>
<td>Montana</td>
<td>Missouri</td>
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<tr>
<td>Nebraska</td>
<td>Montana</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>Nebraska</td>
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<tr>
<td>Utah</td>
<td>New Mexico</td>
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<tr>
<td>Wyoming</td>
<td>North Dakota</td>
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<tr>
<td></td>
<td>Ohio</td>
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<td></td>
<td>South Dakota</td>
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<td></td>
<td>Utah</td>
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<td></td>
<td>Vermont</td>
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<td></td>
<td>Virginia</td>
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<tr>
<td></td>
<td>Washington</td>
</tr>
<tr>
<td></td>
<td>West Virginia</td>
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<tr>
<td></td>
<td>Wisconsin</td>
</tr>
</tbody>
</table>
Sixteen licensing agencies reported the utilization of paraprofessionals. Of those, 8 reported registration requirements for paraprofessionals and 5 reported training guidelines (Table 3). A Chi-square statistical analysis indicated no significant difference between the expected and observed frequency of registration requirements for education versus licensing agencies ($\chi^2=2.73$, alpha=.05, df=1).

Of those agencies which reported they did not require registration of paraprofessionals, 8 reported alternative means by which such personnel might be identified, such as a review of school district annual reports but indicated that they did not employ them.

Agreement Between State and ASHA Training Guidelines

The third question examined the extent and degree of compliance at the state level with ASHA's guidelines for the training of paraprofessionals. This question was answered by scoring a coding manual for each agency guidelines received. ASHA recommends seven areas of training (Normal processes in speech, language, and hearing; Disorders of speech, language and hearing; Behavior management skills; Response discrimination skills; Program administration skills; Equipment and materials; and Overview of professional ethics). Each area on the coding manual was scored as covered (+1) or not covered (0) within a given state’s guidelines.
TABLE 3—AGENCIES WHICH REPORTED REGISTRATION REQUIREMENTS FOR PARAPROFESSIONALS

<table>
<thead>
<tr>
<th>Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensing Agencies (N= 8 of 16 agencies which reported utilizing paraprofessionals)</td>
</tr>
<tr>
<td>California</td>
</tr>
<tr>
<td>Florida</td>
</tr>
<tr>
<td>Indiana</td>
</tr>
<tr>
<td>Iowa</td>
</tr>
<tr>
<td>Maine</td>
</tr>
<tr>
<td>Missouri</td>
</tr>
<tr>
<td>Montana</td>
</tr>
<tr>
<td>Nebraska</td>
</tr>
<tr>
<td>Education Agencies (N=5 of 24 agencies which reported utilizing paraprofessionals)</td>
</tr>
<tr>
<td>Kansas</td>
</tr>
<tr>
<td>Kentucky</td>
</tr>
<tr>
<td>Montana</td>
</tr>
<tr>
<td>Nebraska</td>
</tr>
<tr>
<td>Wisconsin</td>
</tr>
</tbody>
</table>

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Ten agencies (5 licensing and 5 education) reported having training guidelines (Table 4). Of these, copies of those guidelines were received from 6 agencies. Guidelines from the remaining 4 agencies were promised but not received. Of the 6 guidelines received, agencies #1, #2, and #3's guidelines were in complete agreement with ASHA's guidelines (i.e., they recommended training in at least seven areas). Agencies #4 and #5's guidelines lacked sufficient detail to score. Agency #4's guidelines indicated that the paraprofessional should complete a three semester-hour course in introductory speech and language pathology from an accredited educational institution. Agency #5's guidelines specified a minimum of fifteen hours in instruction in the specific tasks which the aide would be performing. The guidelines provided by agency #6 indicated that a "Speech-language Pathology Associate" was defined as an aide who provides services and support of clinical programs of speech-language pathology, who is supervised by a licensed speech-language pathologist, and who has completed a Baccalaureate degree and no fewer than 21 semester hours in speech-language pathology. This same agency defined the "Communication Helper" as an individual who has a high school diploma or its equivalent and "appropriate on-the-job-training". The Communication Helper is barred from engaging in direct intervention or assessment.
<table>
<thead>
<tr>
<th>Licensing Agencies</th>
<th>Education Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>California</td>
</tr>
<tr>
<td>Georgia</td>
<td>Idaho</td>
</tr>
<tr>
<td>Iowa</td>
<td>Iowa</td>
</tr>
<tr>
<td>Maine</td>
<td>Kansas</td>
</tr>
<tr>
<td>Utah</td>
<td>Kentucky</td>
</tr>
</tbody>
</table>
Means of Ensuring Compliance with Training Guidelines

The fourth question examined state agencies reported means of ensuring compliance with training guidelines. This question was addressed by compiling and describing relevant survey responses.

Of 5 licensing agencies which reported having training requirements, 2 reported having compliance mechanisms. One licensing agency reported that paraprofessionals must submit a transcript of coursework completed. The second licensing agency required the supervising clinician to submit a signed statement that the paraprofessional(s) they supervised had completed the necessary training. The remaining 3 reported no compliance mechanisms.

Of five education agencies which reported having training requirements, four reported some means of ensuring compliance with those guidelines. Two agencies reported that training requirements were checked during periodic on-site PL 94-142 compliance checks, which are required by federal law. One agency reported that paraprofessionals could elect to take pre- and post-tests and qualify for a certificate of completion of the training, but that this was not a condition of employment. The fourth agency reported that clinicians must submit a plan for the training of all paraprofessionals they plan to supervise, and that the education agency must approve the
plan of training. The fifth agency reported no means of ensuring compliance with its guidelines.

**Provision of Training**

The fifth question examined the role state agencies reported in providing the actual training paraprofessionals received. This question was answered by compiling and describing relevant telephone survey responses.

Four education agencies reported providing at least a portion of the paraprofessional training. Two of these education agencies reported providing portions of the actual training on an in-service basis. One education agency reported preparing a training videotape which was available to supervising speech-language pathologists. One education agency reported providing the funds to allow extra contract hours for supervising speech-language pathologists. These extra hours were specifically earmarked to be spent in training the paraprofessional(s) under their supervision. Of five licensing agencies which reported training guidelines, no agency reported providing any portion of the actual training.

**The Relationship Between Number of Paraprofessionals Reported and the Presence of Training Guidelines**

The data would not support an analysis of the relationship between the number of paraprofessionals reported and the presence of training guidelines. Of 40 agencies which reported
utilizing paraprofessionals, only 8 reported the number of paraprofessionals employed.

Urban versus Rural States and the Utilization of Paraprofessional Personnel

The seventh question was, do states having a larger proportion of rural area employ more paraprofessionals than states which are more urban? A Chi-square statistical analysis was used to answer this question.

In states classified as urban, 10 education agencies reported the utilization of paraprofessional personnel, while 11 reported paraprofessionals were not utilized. Nine licensing agencies in states classified as urban reported the utilization of paraprofessional personnel, while 7 reported that they were not utilized.

In states classified as rural, 14 education agencies reported the utilization of paraprofessional personnel, while 5 reported paraprofessionals were not utilized. Seven licensing agencies reported the utilization of paraprofessional personnel, while 6 reported they were not utilized (Table 5).

A Chi-square statistical analysis indicated no significant difference between the observed and expected frequencies of urban versus rural states' use of paraprofessional personnel ($\chi^2 = 2.82$). Education and licensing agencies in rural states were not statistically significantly more likely to utilize
**TABLE 5-STATE CLASSIFICATION AS URBAN/RURAL AND REPORTED UTILIZATION OF PARAPROFESSIONAL PERSONNEL (PERCENTS)**

<table>
<thead>
<tr>
<th>Reports Utilized</th>
<th>Paraprofessionals</th>
<th>State Classification</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Education Agencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10 [48%]</td>
<td>14 [74%]</td>
<td>24 [60%]</td>
</tr>
<tr>
<td>No</td>
<td>11 [52%]</td>
<td>5 [26%]</td>
<td>16 [40%]</td>
</tr>
<tr>
<td>Total (no. cases)</td>
<td>(21)</td>
<td>(19)</td>
<td>(40)</td>
</tr>
<tr>
<td>$\chi^2$=2.82, df=1, gamma=.51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Licensing Agencies**

| Yes              | 9 [56%]          | 7 [54%]              | 16 [55%] |
| No               | 7 [44%]          | 6 [46%]              | 13 [45%] |
| Total (no. cases)| (16)             | (13)                 | (29)    |
| $\chi^2$=.02, df=1, gamma=.05 |

**NOTE:** Percents in brackets based on cases where N < 50
paraprofessional personnel than were agencies in urban states. However, visual inspection of the data suggested an association between the variables, and a post-hoc gamma analysis confirmed that a trend existed for rural state agencies to utilize paraprofessionals more frequently than did urban state agencies. The trend was stronger for education agencies than for licensing agencies.

**Educational Requirements for Speech-Language Pathologists and the Utilization of Paraprofessional Personnel**

The eighth question was, are fewer paraprofessionals employed in state agencies for which certification for employment may be satisfied with a Bachelor's degree than in states which require a Master's degree for similar employment? Of 45 reporting states, 23 (51%) indicated that speech-language pathologists could be employed in some or all service settings with a minimum of a Bachelor's degree. A breakdown by type of agency indicated that of 15 licensing agencies which reported the utilization of paraprofessional personnel, 7 (47%) required a minimum of a Bachelor's degree for speech-language pathologists, while 8 (53%) required a Master's degree. Of 24 education agencies which reported the utilization of paraprofessional personnel, 7 (29%) required a minimum of a Bachelor's degree, while 17 (71%) required a Master's degree (Table 6). Twelve licensing agencies
TABLE 6—EDUCATION AND LICENSING AGENCIES’
PROFESSIONAL EDUCATIONAL REQUIREMENTS AND THE USE OF
PARAPROFESSIONALS (PERCENTS)

<table>
<thead>
<tr>
<th>Reports Paraprowessionals Utilized</th>
<th>Education Requirement</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.A.</td>
<td>M.A.</td>
</tr>
<tr>
<td>Education Agencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 [43%]</td>
<td>18 [69%]</td>
</tr>
<tr>
<td>No</td>
<td>8 [57%]</td>
<td>8 [31%]</td>
</tr>
<tr>
<td>Total (no. cases)</td>
<td>(14)</td>
<td>(26)</td>
</tr>
<tr>
<td>$\chi^2$ = 2.63, df = 1, gamma = .5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Licensing Agencies

<table>
<thead>
<tr>
<th>Reports Paraprosessionals Utilized</th>
<th>Education Requirement</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.A.</td>
<td>M.A.</td>
</tr>
<tr>
<td>Yes</td>
<td>3 [43%]</td>
<td>13 [59%]</td>
</tr>
<tr>
<td>No</td>
<td>4 [57%]</td>
<td>9 [31%]</td>
</tr>
<tr>
<td>Total (no. cases)</td>
<td>(7)</td>
<td>(22)</td>
</tr>
<tr>
<td>$\chi^2$ = .501, df = 1, gamma = .32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Percents in brackets based on cases where N < 50
responded that paraprofessional personnel were not utilized in their states. Of those, 8 (67%) reported the Bachelor’s degree as the minimum educational standard for professionals. Four (33%) reported requiring a Master’s degree.

Sixteen of the reporting education agencies indicated that paraprofessional personnel were not utilized in their state. Half of those states (8) reported requiring minimally a Bachelor’s degree for professional speech-language pathologists, while the other half (8) reported requiring a Master’s degree. A Chi-square statistical analysis indicated no significant difference between the expected and observed frequencies of use of paraprofessional personnel in states which require a Bachelor’s versus a Master’s degree for entry level speech-language pathologists.
Chapter IV: Discussion

A telephone survey was used to investigate state licensing and education agencies' reported utilization of speech-language pathology paraprofessionals. The existence and nature of registration requirements and training guidelines for such personnel was also investigated. Finally, the study examined the relationship between reported use of paraprofessional personnel and state variables, including classification as urban versus rural and minimum educational requirements for practicing speech-language pathologists.

Eighty-nine individuals were contacted by mail, one at each of 51 state education agencies and 38 state licensing agencies and asked to participate in the telephone survey. Of the 89 individuals contacted, 69 completed the telephone survey regarding the utilization and training of speech-language pathology paraprofessionals in their state. Thirty-three of the 41 reporting states reported utilizing speech-language pathology paraprofessionals in some capacity. Twenty-four (60%) of the 40 reporting education agencies indicated that paraprofessionals were utilized; 16 (55%) of the 29 licensing agencies reported the utilization of paraprofessional personnel. Of the total number of agencies which reported utilizing paraprofessionals (N= 40), 12 (30%) reported registration requirements, while 10 (25%) reported training requirements.
Five (12%) reported both registration requirements and training guidelines. Of six agencies' guidelines received, 2 were in complete agreement with ASHA's guidelines; the remaining four lacked sufficient detail for any such comparison.

No statistically significant difference was present between urban and rural states' utilization of paraprofessionals. However, a post-hoc analysis revealed a trend towards rural education agencies utilizing paraprofessionals more frequently than urban agencies. No statistically significant difference existed in the reported utilization of paraprofessionals by agencies that required Master's degrees for speech-language pathologists and those that required only a Bachelor's degree. The remainder of the chapter will discuss the limitations of the present study, the implications and applications of the results, and present the conclusions.

Limitations of the Study

A limitation of the study was that a frequency count of paraprofessionals employed by each state agency was not obtained. While the majority of respondents could indicate the use of paraprofessionals, relatively few (N=8) could report the actual numbers of such personnel. Future investigators may obtain a more accurate count of paraprofessionals by working with state agencies and professional state associations.

Respondents to the telephone survey portion of the current
study suggested several methods of obtaining a count of paraprofessional personnel, such as reviewing individual school districts' annual reports and reviewing speech-language pathologists' applications for renewal of professional licensure, which in some states list paraprofessional personnel supervised.

A second limitation of the study was that entire states were classified as being urban or rural. Perhaps paraprofessionals are being utilized to serve rural areas of states that were classified as urban. For example, the state of New York, classified as urban for the purposes of the present study, certainly has rural areas. Perhaps differences exist in the utilization of paraprofessional to serve urban versus rural areas within a state. A more accurate measure in future research might be to use state education agencies' classification of individual districts or schools which utilize paraprofessionals as being urban or rural, and to allow licensing agencies to make urban/rural classification by areas within states rather than by the state as a whole.

A further limitation of the present study was that different employment settings of paraprofessionals were not identified. Assuming that paraprofessionals reported by licensing agencies and by education agencies represent two separate and distinct groups would be inappropriate. In some states, public school
speech-language pathologists are exempt from licensure laws, while in others they are not, and are required to be licensed before practicing in a state. Thus paraprofessionals reported by some licensing agencies may have included those employed in nursing homes, private practices, and hospitals as well as in public schools, while others excluded public school clinicians. Paraprofessionals reported by education agencies may have included those employed in residential schools, resource rooms and self-contained classrooms. Consequently some overlap may exist in data gathered from licensing agencies and education agencies.

Implications and Applications of Results

The implications of the present study will be discussed within the framework of three related issues: 1) the number of paraprofessionals employed in speech-language pathology 2) the settings in which they are employed and 3) para-professional training guidelines.

No study to date, including the present study, has identified the number of paraprofessionals actually employed in speech-language pathology. Determining the number of paraprofessionals employed by speech-language pathologists with some degree of accuracy seems important for several different reasons. The lack of baseline demographic information make determining whether the practice of utilizing
paraprofessionals is increasing, decreasing, or remaining stable over time difficult. This information is critical to determining if a need exists for speech-language pathologists to receive training in the supervision of paraprofessional personnel. The incidence of paraprofessionals must be determined before additional questions regarding the utilization of paraprofessionals may be addressed. Obviously, no conclusions may be drawn regarding variables which effect the utilization of paraprofessionals until the number of such personnel are more closely estimated. The results of the present study may serve as a preliminary estimate of the number of states which currently utilize paraprofessional personnel, but not the number of paraprofessionals utilized.

The results of the present study suggested that rural education agencies may utilize paraprofessionals more frequently than do urban agencies. If this result is supported by future research, it would have implications for the assurance of quality services to the communicatively handicapped. The characteristics hypothesized to lead rural agencies to utilize greater numbers of paraprofessionals (e.g. geographic limitations and difficulties recruiting/retaining professionals) may make adequate training and supervision of those aides problematic. For example, agencies that utilize paraprofessionals because of difficulties attracting
professionals to rural and/or remote areas may find those same difficulties apply in attracting professionals to train and/or supervise the paraprofessionals.

ASHA (1981) suggests that paraprofessionals receive, at a minimum, training in the seven areas outlined in their training guidelines. However, empirical evidence documenting that training in any (or all) of these areas will enable paraprofessionals to perform clinical tasks more efficiently or effectively is lacking. The relationship between paraprofessional training and clinical effectiveness has yet to be demonstrated. This demonstration may be best accomplished through experimental research design, rather than further survey studies. If the practice of utilizing paraprofessionals continues, determining what level of training is necessary to enable them to provide adequate clinical services to the communicatively handicapped is critical. Future research should determine whether ASHA’s guidelines represent necessary and/or sufficient paraprofessional training.

The results of the present study suggest that the question of whose responsibility it is to regulate the training of speech-language pathology paraprofessionals has not been resolved. Responses to the telephone survey indicated that some state agencies have assumed at least partial responsibility for
paraprofessional training, although little uniformity existed among and within agencies. Some agencies which reported utilizing paraprofessionals reported no training guidelines. Some reported a role in paraprofessional training limited to developing guidelines. Several agencies reported checking for compliance with training guidelines, and a few agencies reported providing portions of the actual training. Of the agency training guidelines reviewed in the present study, some reflected ASHA guidelines; others did not. Future research should investigate agency awareness, familiarity and satisfaction with ASHA guidelines. These factors may be related to the fact that ASHA's guidelines have not been adapted more pervasively.

State agencies may assume some responsibility for paraprofessional training. Individual clinicians may provide such training in states in which neither education nor licensing agencies reported involvement in paraprofessional training. Ultimately, the supervising speech-language pathologist is ethically and legally responsible for the actions of the paraprofessional(s) she/he supervises. Future research should address the question of whether speech-language pathologists are adequately educated at the graduate level or through continuing education to provide such training.
Conclusions

The results of the present study clearly indicate a lack of coordination among state agencies and between state agencies and ASHA with regard to regulating the use and training of speech-language pathology paraprofessionals. The situation might best be described as abysmal; the majority of state agencies which report utilizing such personnel have neither registration nor training requirements for speech-language pathology paraprofessionals. The implications of this apparent lack of coordination are grave when considered in light of the fact that paraprofessional personnel are currently providing at least some direct clinical services to individuals with communication disorders.

Speech-language pathology has historically been a self-regulating profession. A speech-language pathologist who seeks to hold the Certificate of Clinical Competence must complete a prescribed sequence of coursework and clinical practicum. Continuing education requirements are recommended to ensure that training continues throughout a speech-language pathologist's career. The results of the present study indicate that no training standard exists for speech-language pathology paraprofessionals. The guidelines suggested by ASHA have not been adapted by the majority of state agencies which reported the utilization of
paraprofessional personnel. In fact, the majority of agencies which reported utilizing paraprofessionals reported no training guidelines whatsoever.

Paraprofessionals are currently providing direct clinical services to the communicatively handicapped. Rising costs of health care and education, the growing population of the elderly, federally mandated services to pre-school as well as school aged children and personnel shortages are all factors which may contribute to an increased utilization of paraprofessional personnel in the future. Speech-language pathologists' professional, legal and ethical responsibilities to provide adequate services to their clients dictate that all aspects of utilizing paraprofessionals be closely examined. These aspects include the incidence and settings of employment, and the training they require and/or receive. The present study represents a step in this direction.
REFERENCES

Adam, K. Personal communication, October 20, 1989.


Appendix A
Cover letter

Dear Professional,

We are currently conducting research into the utilization of paraprofessional personnel in the field of speech-language pathology/audiology.

This letter requests your participation in a telephone survey to be completed during the weeks of December 11, 1989 — January 1, 1990. The survey will take approximately ten minutes to complete. The survey topics will include the licensure and/or registration of speech-language pathology/audiology paraprofessionals, the number of such individuals currently employed in your state, the number of paraprofessionals employed last year, and guidelines/rules, and/or regulations which address the training of paraprofessionals in your state. It would facilitate the interview if you have this information readily available.

As we would like to present information from all fifty states, your input is critical. The results of this study may help to determine the needs at the state level to ensure the most effective and efficient use of speech-language pathology/audiology paraprofessionals. The information gathered in this study will be provided to the American Speech-Hearing-Language Association. You will also be provided a summary of the results of this study.

Should you have a scheduling conflict which prevents your participation in the study, would you please designate another person to respond to the survey in your place?

Thank you for your consideration of this matter. We look forward to speaking with you in the near future.

Sincerely,

Barbara A. Bain, Ph.D., CCC-SLP/A       Mary E. Keeney, B.A.

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Appendix B
Telephone Survey for State Offices of Public Instruction and State Education Agencies

Date:________________________
State:________________________
Agency:_______________________
Phone Number:_________________
Contact Person:________________
Time Begins:______________
Time Ends:_______________

READ THE FOLLOWING:
Hello. My name is Mary Keeney. I'm a graduate student in Communication Sciences and Disorders at the University of Montana. Did you receive a letter about a phone survey regarding the utilization of speech-language pathology/audiology paraprofessionals?

IF NO I am conducting a survey regarding the utilization and training of speech-language pathology/audiology paraprofessionals. The survey will take approximately ten minutes.

To begin, I’d like to verify that the identifying information I have is correct. I will read your name, position or title, and mailing address.

_________________________
_________________________
_________________________
_________________________

Is that information correct? (If no, write all corrections in space provided above)
1. What level of education is required for a speech-language pathologist/audiologist to be employed in your state?

  _ Master's Degree
  _ Bachelor's
  _ Other

(DESCRIBE)________________________________________

2. Does your state utilize paraprofessionals in the field of speech-language pathology or audiology?

  _ utilizes paraprofessionals in speech pathology and audiology
  _ utilizes paraprofessionals in audiology only
  _ utilizes paraprofessionals in speech-language pathology only
  _ no, this state does not utilize speech-language pathology/audiology paraprofessionals
  _ Don't Know

May I speak to someone who might know?

LIST NAME AND TITLE OF SECOND RESPONDENT:

________________________________________

3. Does your state require that speech-language pathology/audiology paraprofessionals be licensed or registered?

  _ Yes (Detail below)

________________________________________

________________________________________
_ No Do you have some other means of identifying speech-language pathology/audiology paraprofessionals employed in your state?" Enter alternative means, if any, reported by respondent:

4. How many paraprofessionals are currently registered or licensed in your state/employed in the public schools in your state?

In Audiology (enter #) _____
In Speech-Language Pathology (enter #) _____
Total (enter #) _____

If respondent answers, "Don't know": "Please estimate the number of paraprofessionals employed."
(enter #) _____

5. How many paraprofessionals were working last year?

In Audiology (enter #) _____
In Speech-Language Pathology (enter #) _____
Total (enter #) _____

If respondent answers, "Don't know", enquire Would you estimate that the number of paraprofessionals working in your state has decreased, increased, or remained about the same since last year? Record response below:
6. Does your agency currently have any rules, regulations, or guidelines which address the training of speech-language pathology/audiology paraprofessionals?

_ NO (TERMINATE SURVEY): The information you have provided will be very helpful. Thank you for your time. I will be sending you a summary of the results of this survey.

_ YES (DESCRIBE)

_ NO

7A. Is your agency involved in any way with the actual training of paraprofessionals, for example by providing funds or by providing any portion of the actual training?

_ YES (DESCRIBE)

_ NO

7B. How does your agency ensure compliance with those guidelines, rules, or regulations? (DESCRIBE)

If I sent you a self-addressed stamped envelope, would you be willing to provide me with a copy of those training rules/regulations/guidelines? Could you please send me the information as soon as you receive the envelope? (TERMINATE SURVEY): Thank you. The information you have provided thus far will be very helpful. I look forward to
receiving a copy of your training guidelines. I will be sending you a summary of the results of this survey.

_No_ (TERMINATE SURVEY): Thank you very much for your time. The information you have provided will be very helpful. I will be sending you a summary of the results of this survey.

Is there anything which you feel is important about the utilization and training of paraprofessionals which you would like to add?
Appendix C
Education and Licensing Agency Contact Comments

Licensing Agency Comments

I feel it definitely needs to be defined—we need a basis of minimal qualifications for aides in education in general and even more so for specialty areas like speech. My personal opinion is that there is no place for paraprofessionals in the school because there is no practical way to ensure adequate training.

The shortage of personnel in this state is exacerbated by the difficulty people have in passing the NTEs [National Teacher's Examination].

This is a very controversial issue in our state. I can see where other areas exercise cost-cutting options, and we may need to as well, or else we may be squeezed out. Aides should not be used as pseudo-licensees, but should be used in minimal and strictly supervised ways.

We'd like to see universities or community colleges develop programs for aides. We have such a critical need for personnel that we just can't meet.

Aides are very difficult to monitor—more so than other personnel. I'm sure there are more aides out there than we know about. Although our board was given the authority to establish guidelines for the qualifications of speech aides in 1987, they have yet to do so.
We're presently trying to define the role of paraprofessionals. We're currently working on guidelines defining exactly what they can and can't do, rather than leaving it sort of open-ended as it has been.

We have no official position on paraprofessionals—we are not in support of or against them. However due to the shortage of speech-language pathologists and audiologists they'll be used more and more, so we need to define their use.

There has been a great deal of talk and interest in licensing or registering assistants, but nobody has done anything concrete to move forward on the issue.

We'll probably not look at licensing or registering speech aides here. We already have 20 autonomous licensing boards here, so unless the legislature tells us to register or license aides I doubt if we'll take a serious look at it.

Currently our state attorney general's office is reviewing whether the use and training of paraprofessionals is acceptable according to statute authority.

Our board has been discussing this issue. We are nowhere even close to agreement on whether aides are even appropriate. My personal opinion is that aides could certainly be useful with continuum of care issues, especially in residential and daycare facilities.

The less paraprofessionals licensed the better. We don't need to encroach on professionals turf—soon you'll need a license to go to the bathroom.
Schools can get reimbursement by the state for monies for salaries of certified clinicians, but can't be reimbursed for aide salaries, so some school districts which have used aides in the past and found them invaluable no longer utilize them.

*Education Agency Comments*

We have a task force examining the shortage of personnel in schools and one of the things they will look at is the possibility of using paraprofessionals.

There are only a very few paraprofessionals working in this state, in rural areas. But it is a very isolated few.

Speech aides have been a way to keep closer contact with regular education programs. Aides are in the schools-speech is often a "pull-out" program and so aides increase the ability to use the concept of intensive speech work over shorter periods of time. Speech aides can't, by law, be used to increase clinician caseload.

Aides can perform a wonderful function in relieving speech-language pathologists of some functions they get bogged down in. We had grant funding to use paraprofessionals for two years in several school districts. The districts continued to use them after the project ended.

Under current licensure law it is not possible to utilize paraprofessionals in this state. We are currently reviewing a host of possibilities to ease our personnel crisis, including better recruiting strategies for certified people, and easing some state requirements, but we are not examining the use of paraprofessionals at this time.

I wish we used them more in public schools, especially for tasks like record-keeping, material preparation and closely
supervised drill work. Our funding system doesn't give us the flexibility I think we need to employ the assistants we need.

We see paraprofessionals as one way to provide more intensive services and addressing the personnel shortages, so we are interested in using them. But, one problem we're encountering is that speech-language pathologists need training on how to effectively supervise paraprofessionals.

The increase in the number of speech-language pathology paraprofessionals has been a result of the preschool mandate.

People are not aware of how paraprofessionals can be used.

The argument to use paraprofessionals is very compelling. They are a tool that can be used in a very cost-effective manner.

In retrospect, if I had it to do over again, I'd allow less flexibility in the training of paraprofessionals from the very beginning. I wish we had training for clinicians on how to supervise paraprofessionals.

I think the present ASHA guidelines are minimum at best. I am personally dead-set against it. We have never used them, nor do we have plans to. We'd rather focus our energies on attracting trained professionals to serve our children.

I know other states have used them effectively, like Iowa and Kansas. I think those states have pioneered in this area. In responding to personnel shortage, it's a tool that should be looked at. The process of introducing paraprofessionals in this state through certification or licensure would be a long route, and this state has no plans to begin using paraprofessionals, although we recognize their value.
The reason we don't use aides is just historical. Our rules are very clear on which special education programs get aides, and this has historically never included speech-language pathologists.

At one time, when speech-language pathologists were in very short supply, we used paraprofessionals, especially in rural areas, and primarily with articulation, but since the numbers of speech-language pathologists have increased, we have discontinued their use.

Speech-language pathologists grossly underutilize paraprofessionals. In my experience speech-language people aren't open to using them. My assumption is that this is due to two factors. One, they lack training in using paraprofessionals and two, speech-language pathologists like to do their own thing. In the school setting they are so autonomous-other people don't really know what they're doing and they don't really want people to know what they're doing. Of the special education personnel, speech-language pathologists use paraprofessionals least, but could benefit from them most.

Training and licensure is determined in this state by licensure law and the Office of Public Instruction follows licensure law.

I feel we are underutilizing the appropriate use of paraprofessionals. Some of the use in this state is very inappropriate in terms of appropriate supervision, training and adequate job descriptions. Our rules do not specify the scope or quality of training paraprofessionals should receives, and does not address the amount of supervision required at all.

State law requires unlicensed individuals to be directly supervised under immediate physical proximity of the supervisor, which precludes the use of paraprofessionals to provide clinical services.

For the purpose of our state, what we require of any aide would be adequate for a speech aide as well in terms of
training. I don't think we'd need to designate speech aides as a separate category. If a speech aide was written into an IEP we would of course provide one.

I am very much in support of the use of paraprofessionals, and so is our department of public instruction. We developed a package for the proposed use of aides, which included a training component, but the state speech-language-hearing association fought us tooth and nail. They hid behind the licensure board and successfully defeated the movement to use aides in this state.

I'm sure this is a hot issue right now—aides are a real cost-effective means of providing services, but many quality issues need to be resolved. I think in general directors of special education love the idea of using aides, but professional aren't so sure.

From 1968 through 1978 we had various research and demonstration projects regarding the use of paraprofessionals which pointed out not only the efficacy of doing that, but the help it provided to the certified personnel. But it comes down to money which prevents districts from using paraprofessionals, due to the way the reimbursement funding is structured. We've proved without a doubt they improve programs and they improve remediation. Unfortunately the funding just isn't there.

I've long thought that the option of using paraprofessionals in this state should be explored.

I think they [paraprofessionals] are very much needed. I'd like to see some type of licensure or standards for paraprofessionals. With the move towards least restrictive environments and using the consultative mode more frequently, paraprofessionals could be of great assistance in this state.
We have considered the use of paraprofessionals-examined by committee. Although paraprofessionals can do some useful things, there is also great potential for abuse. We are therefore not recommending the use of paraprofessionals.

The state speech and hearing association will introduce a bill in the near future which calls for licensure of speech-language pathologists and audiologists and possibly paraprofessionals as well.

Using paraprofessionals can be positive or negative. Schools may get so comfortable with paraprofessionals that they won't look for people with their CCCs. We really need training of speech-language pathologists and audiologists in how to supervise paraprofessionals.

We've discovered that often professionals haven't had instruction in how to use paraprofessionals. That would be helpful if there's going to be continued use of paraprofessionals which seems a likely development given our perpetual recruitment and retention problems.

We're looking at paraprofessionals because of the dire shortage of professionals, although we recognize that their use would not relieve us of the responsibility to find certified people. We are examining other alternatives as well. For example, we serve our milder articulation cases indirectly in a consultation mode. Paraprofessionals are not appropriate for severe cases.

Given the increasing nature of the shortages in speech-language pathology, state agencies may be looking at the utilization of paraprofessionals. We need a two-tiered system with generic training for any aide and then specific to speech-language pathology aides to be licensed. My personal bias is that speech-language pathology requires tremendous expertise. It is the only area in special education which requires a
master's degree, so how can you then say that an aide could do it?

State rules preclude the use of paraprofessionals by intinerant SLPs—they may only be used in language-impaired classrooms in which the teachers are speech-language pathologists.

Speech-language pathology paraprofessionals are not allowed in this state—our funding system precludes their use.
Appendix D
Request for Training Guidelines

Dear Professional,

Thank you for completing the telephone survey regarding the utilization and training of speech-pathology/audiology paraprofessionals in your state. I appreciate your cooperation, and the information you have thus far provided should prove to be very helpful.

You may recall that I requested that you provide copies of the speech-language pathology/audiology paraprofessional training rules, regulations, or guidelines employed in your state. Enclosed please find a postage-paid envelope in which to send me the relevant information.

Thank you again. I look forward to hearing from you at your earliest convenience. If you have any questions, concerns, or comments, I may be reached at (406) 243-4131.

Sincerely,

Mary Keeney
Appendix E

Dear Professional,

Thank you for completing the telephone survey regarding the utilization and training of paraprofessional personnel in speech-language pathology. The results of the study are summarized for you here:

A telephone survey was completed by individuals at 40 state education agencies and at twenty-nine licensing agencies. The utilization of speech-language pathology paraprofessionals was reported by 24 education agencies and 16 licensing agencies. Of 45 states and the District of Columbia represented in the survey, 72% reported that paraprofessionals were utilized in some capacity.

Of 40 agencies which reported utilizing paraprofessionals, 13 indicated that registration of such personnel was mandatory. Ten of the 40 agencies indicated there were training guidelines for speech-language pathology paraprofessionals. Only 8 agencies could report the actual number of paraprofessionals employed.

Copies of 6 of the 10 identified training guidelines were received and analyzed. Two of the guidelines included training in at least the seven areas recommended by ASHA guidelines. The remaining 4 guidelines lacked sufficient detail to allow a comparison to ASHA guidelines.

A Chi-square statistical analysis indicated no significant relationship between the utilization of paraprofessionals and professional educational requirements. A similar analysis indicated no significant relationship between the utilization of paraprofessional personnel in urban versus rural states. However, a post-hoc analysis (gamma=.51) demonstrated a trend towards rural education agencies utilizing paraprofessional personnel more frequently than did urban agencies.

The results of the present study indicated a lack of coordination among agencies and between agencies and the national professional organization (ASHA) with regard to the utilization and training of speech-language pathology paraprofessionals. Few agencies could report the number of paraprofessionals employed. Alternative means of identifying such personnel were suggested.

Thank you for your time.

Sincerely,

Mary Keeney, M.A.  Barbara Bain, Ph.D.
Appendix F
CODING MANUAL
Correspondence Between State and ASHA Training Guidelines

State:___________
Contact Person:___________
Time Begins:___________
Time Ends:___________

Total Number of Areas Credited (From 0 to 7) ______
Areas Credited (list by number) ____________________________

Enter 1 next to each item addressed by state guidelines, 0 next to items omitted in state guidelines.

Area 1: Normal processes in speech, language, and hearing ______
Percent Score (Enter 0, 33, 67, or 100%) ______
A. anatomic and physiological bases for the normal development and use of speech, language, and hearing such as anatomy, neurology, and physiology of speech, language and hearing mechanisms ______

B. physical bases and processes of the production and perception of speech, language and hearing such as a) acoustics or physics of sounds (b) phonology, (c) physiologic and acoustic phonetics, (d) perceptual processes, and (e) psychoacoustics ______

C. Linguistic and psycholinguistic variables related to the normal (historical, descriptive, sociolinguistics, urban language), (b) psychology of language, (c) psycholinguistics, (d) language and speech acquisition, and (e) verbal learning or verbal behavior. ______
Area 2: Disorders of speech, language, and hearing
Percent Score (Enter 0, 33, 67, or 100%) 

A. A Speech Disorder is an impairment of voice, articulation of speech sounds, and/or fluency. This impairments [sic] are observed in the transmission and use of the oral symbol system.

1. A Voice Disorder is defined as the absence or abnormal production of vocal quality, pitch, loudness, resonance and/or duration.

2. An Articulation Disorder is defined as the abnormal production of speech sounds.

3. A Fluency Disorder is defined as the abnormal flow of verbal expression, characterized by impaired rate and rhythm which may be accompanied by struggle behavior.

B. A Language Disorder is the impairment or deviant development of comprehension and/or use of a spoken, written and/or other symbol system. The disorder may involve (1) the form of language (phonologic, morphologic, and syntactic systems), (2) the content of language (semantic system), and/or (3) the function of language in communication (pragmatic system) in any combination.

1. Form of Language
   a. phonology is the sound system of a language and the linguistic rules that govern the sound combinations.

   b. morphology is the linguistic rule system that governs the structure of words and the construction of word forms form the basic elements of meaning.

   c. syntax is the linguistic rule governing the order and combination of words to form sentences, and the relationships among the elements within a sentence.
2. Content of Language

a. semantics is the psycholinguistic system that patterns the content of an utterance, intent and meanings of words, combinations of words and sentences.

3. Function of Language

a. pragmatics is the sociolinguistic system that patterns the use of language in communication which may expressed motorically, vocally or verbally.

C. A Hearing Disorder is altered auditory sensitivity, acuity, function, processing and/or damage to the integrity of the physiological auditory system. A hearing disorder may impede the development, comprehension, production, or maintenance of language, speech and/or interpersonal exchange. Hearing disorders are classified according to difficulties in detection, perception and/or processing of auditory information. _____

1. Deaf is defined as a hearing disorder which impedes an individual's communicative performance to the extent that the primary sensory avenue for communication may be other than the auditory channel.

Area 3: Behavior Management Skills _____

Area 4: Response discrimination skills_____ including but not limited to the discrimination of correct/incorrect verbal responses along the dimensions of speech sound production, voice parameters, fluency, syntax and semantics

Area 5: Program administration skills_____ including stimulus presentation and consequation, data collection and reporting procedures and utilization of programmed instructional materials.
Area 6: Equipment and materials used in the assessment and/or management of speech, language, and hearing disorders.

Area 7: Overview of professional ethics and their application to the assistant's activities.

LIST areas covered by this state which are in addition to or in lieu of those recommended by ASHA: