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Vocational Rehabilitation of the Hearing Impaired Native American

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VOCATIONAL REHABILITATION OF THE HEARING IMPAIRED NATIVE AMERICAN

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It was not until 1920, with the passage of the Smith-Fess Act, that federally funded programs specific to the rehabilitation and training of the deaf persons were initiated. Thus, while the deaf population had been the recipient of services for many years, it was only in recent years that professionals in the field began to recognize the additional needs of deaf minority groups. Bowe (1971), in his review of literature relative to non-white hearing-impaired persons, concluded that some information indeed had been collected. However, his most significant finding was the paucity of available research data. Data which had been amassed were concerned primarily with hearing impairments of black and Puerto Rican Americans.

It is notable that hearing problems of the Native American population have not been included in surveys or research studies. Some literature does exist relative to the geographical distribution, health, education, and employment problems of Indians. The literature shows that the majority of American Indians live on reservations where the infant mortality rate is twice the national average. Those children who survive begin their education later, receive an inferior education, drop out of school more frequently, and have a juvenile delinquency rate several times higher than the national rural average. Unemployment on Indian reservations ranges from 12 to 74 percent, with an average of approximately 40 percent. This is ten times higher than the national average. Fewer jobs exist on the reservations and many Indians choose not to leave for the purpose of employment. Indians living on reservations have a higher rate of health problems, some of which create the disability of a hearing impairment. Otitis media and meningitis are two contributing factors and are listed among those causes most frequently occuring.

However, literature dealing directly with hearing impairments among American Indians is limited to one article. White and Nickoloff (1971) surveyed the Bell Gardens-Cudahay area of Los Angeles, California to determine the incidence of hearing impairments of Indian residents in that area. No decisive conclusions were reached because very few hearing impaired people were located. Of the 1,000 Indian residents in that area, only seven were found to have a hearing problem; no significant projections were made.

The purpose of this study, then, was to conduct a pilot survey designed to gather data focusing on selected psychological, educational, medical, and vocational variables relative to the hearing impaired Native American client during the vocational rehabilitation process and to attempt to determine if each of the variables has an impact on whether a client could achieve successful rehabilitation closure.

METHOD

Overview

The State of Arizona was selected as the site for gathering data due to its large Indian population. The cooperation of the Arizona Department of Economic Security-Bureau of Vocational Rehabilitation and the Bureau of Vocational Rehabilitation was obtained for access to records. Individuals were identified by their respective case numbers for further retrieval of information when necessary.

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Closed cases were taken from the Arizona State Archives and were screened. The documents were the Case Service Reports and the Federal Reporting Form R-300. Both forms were used by the Bureau to report to the federal government status of cases served by that agency once the case was closed. The forms contained basic demographic data related to time in rehabilitation, amount of money spent in that effort, and personal data such as name, sex, age, address, size of family, and disability.

Sample

The sample consisted of sixty-one American Indians whose cases were closed by the Department of Economic Service; this constituted the entire population of American Indians closed during a five-year period of time. It contained 44 males and 17 females whose ages ranged from 15 to 57 years. The five-year time span was selected because it yielded a sample size large enough to reveal outstanding characteristics of this population.

Instrumentation

A format was established to categorize data into a manageable form. This 23 question format provided direction for the data analysis. Each of the questions had a unique purpose; combined, they directed an inquiry into particular health, psychological, demographic, educational, and employment variables. Additionally, information pertaining specifically to the vocational rehabilitation process was gained.

Classification and Analysis of the Data

The data were placed into intervals whenever possible to facilitate interpretation and dichotomized only when yes or no responses were required. Master sheets were constructed to extract the data from the R-300's and Case Service Reports. Categories were written to correspond with the questions asked in the demographic survey. The purpose of using the master sheet was to include as much data as possible and to insure that no information was excluded when entered into a computer.

A statistical analysis of the data concerning the rehabilitation process was completed. A Chi-square test of goodness of fit was used to determine if significant differences existed in the number of rehabilitated cases and those of the five-year population figures. This analysis was completed within categories for the areas of time and expenditure referral, evaluation, and training.

RESULTS

Sixty-one cases closed by the Arizona Rehabilitation Services Bureau were screened into the sample for purposes of the study. The subjects were identified as being of Indian origin and had been diagnosed as having a hearing impairment.

Demographic Data

The data indicated more males than females were referred for rehabilitation and a greater percentage of males were successfully closed. Most of the clients referred were from reservations or rural areas, however, the district offices from which counselors worked were located in urban areas.

The relatively young accounted for most of the rehabilitants. Well over one-half of the cases (64 percent) were never married, therefore, marriage was not a criterion for successful closure. Education showed a positive correlation to rehabilitation success; the more education, the greater the chance of employment.

Most of the Native Americans in the sample were not on welfare; only 18 percent were receiving welfare benefits. However, none of the referrals reported an income at the time the referral was made.

Etiology of Hearing Impairments

Relative to the known etiologies, congenital conditions were the leading causes of hearing impairments. Twenty-five percent of the people in the sample became hearing-impaired because of birth defects. Closure was obtained on only 17 percent of those individuals with congenital conditions. Otitis media was the second leading cause, accounting for 21 percent of the sample. It should

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be noted, however, that otitis media results from viral infections. Thus, by including otitis media with the third leading cause, infections, 36 percent of the sample became hearing-impaired because of illnesses. Twenty-seven percent of the sample lost their hearing for unknown reasons, while meningitis, trauma and "other reasons" accounted for 12 percent of the sample. Fifty percent of the people who lost their hearing because of otitis media were closed rehabilitated. However, when combined with those who lost their hearing because of infections, the success rate was lowered to forty-one percent. The etiologies and the number of rehabilitated individuals are displayed in Table 1.

TABLE 1
Etiology of Hearing Impairments*

Etiology	*n*	*%*	*Rehabilitated*
Congenital	12	35	2
Otitis Media	10	21	5
Infection	7	15	2
Meningitis	1	2	1
Trauma	3	6	0
Unknown	13	27	3
Other	2	4	1
	n=48	100%	14

*The Etiology of Deafness was provided in 48 of the 61 closed cases.

Additional Disabilities

Additional disabilities were reported in 41 of the 61 cases or 67 percent of the sample population. One of these disabilities was personality disorders which accounted for the highest percentage (32%) of secondary disabilities. Of the group so identified, 15 percent of the cases were successfully closed. Orthopedic disabilities were the second leading additional disability accounting for 20 percent of the sample. Fifty percent of the cases with this additional problem were closed. The third leading additional disability was that of mental retardation. Twelve percent of the cases were diagnosed as mentally retarded and 40 percent of the cases were closed in employment. Visual disabilities, alcoholism, tuberculosis, and cardiac disabilities were also listed as known causes of additional disabilities. This group accounted for 26 percent of the sample. Of this category, 36 percent were successful closures. Ten percent of the sample had secondary disabilities listed as "other", therefore, no definite diagnosis was made. Of the four people in this category, two cases were closed because of employment. The additional disabilities are displayed in Table 2.

TABLE 2
Additional Disabilities

	n	*%*	*Rehabilitated*
Visual Disabilities	2	5	1
Orthopedic Disabilities	8	20	4
Mental Retardation	5	12	2
Personality Disorders	13	32	2
Alcoholism	3	7	1
Tuberculosis	3	7	1
Cardiac Disabilities	3	7	1
Specifically Unspecified	4	10	2
	n=41	100%	14

The Rehabilitation Process

An examination of the referral sources, time in referral, time in evaluation, cost of evaluation, time in training, and cost of training was conducted in relation to the number of individuals rehabilitated. The significance of cost and time in the rehabilitation process was established using the Chi-square test. This data is detailed in Tables 3 and 4.

Referral Source. Educational institutions and public and private agencies accounted for 61 percent of the referrals. Fifteen percent of the referrals were made by individuals, the Department of Welfare made 11 percent, hospitals and sanitoriums referred 10 percent, and health organizations accounted for 3 per cent of the referrals.

Fifty-six percent of those clients referred by educational institutions were closed rehabilitated. Referrals from public and private institutions had a rate of 26 percent of successful closures. This was followed by Department of Welfare referrals, 28 percent, and by referrals made by individuals, 11 percent. Table 3 details referral sources by the

number of referrals and the number rehabilitated.

TABLE 3
Referral Source

	n	%	*n Rehab*
Educational Institutions	18	30	10
Hospitals & Sanatoriums	6	10	0
Public & Private Organizations	19	31	5
Individuals	9	15	1
Health Organizations	2	3	0
Welfare	7	11	2

Time in Referral. Sixty-four percent of the clients remained in referral status less than three months while 35 percent remained in referral status for four months or more. In several cases this period exceeded 18 months. When the percentage of rehabilitated clients was compared to time in referral there was not a significant difference found. (See Table 4).

Time in Evaluation. Sixty-two percent of the clients were in evaluation for six months or less. Fifty-nine percent of this group was rehabilitated as compared to forty-one percent rehabilitated of the remainder of the sample which was in evaluation for over 6 months. No significant difference was found in the relationship between the time in referral and rehabilitation.

Cost of Evaluation. Cost of evaluation where expenditures were less than $100 were provided to 67 percent of the sample. This group accounted for only 44 percent of those rehabilitated. Expenditures over $100 were provided for evaluation of 33 percent of the sample but accounted for 56 percent of the rehabilitated cases. Expenditure of funds on training was found to be directly related to closed rehabilitated cases. Evaluation exceeding $100 in costs resulted in a significantly higher percentage of rehabilitated clients than expenditures which were under $100. (See Table 4.)

Time in Training. Seventy-six percent of the sample were in training for less than 12 months. This group accounted for 64 percent of the rehabilitated cases. While 26 percent of the sample received 12 months or more of training and accounted for 36 percent of the rehabilitated cases. Time in training was found to be a significant factor in client rehabilitation. (See Table 4.)

Cost in Training. Seventy-four percent of the sample represented less than a $500 cost for training. This group accounted for only 39 percent of the rehabilitated cases. On the other hand, only 16 percent of the population represented a cost of over $500 for training. This group accounted for 61 percent of the rehabilitated cases. Expenditures for training were found to be significantly related to rehabilitation outcome.

TABLE 4
Referral Time and Cost of Referral, Evaluation, and Training

	N	%	*n Rehab*	*% Rehab*	*Chi Square*
Time in Referral					
3 mos or less	39	64	13	72	2.38
over 3 mos	22	36	5	26	
Time in Evaluation					
6 mos or less	38	63	10	59	.39
over 6 mos	23	38	7	41	
Cost of Evaluation					
less than $100	41	67	8	44	23.93*
over $100	20	33	10	56	
Time In Training					
less than 12 mos	46	76	9	64	7.89*
12 mos or more	15	24	5	36	
Cost of Training					
less than $500	45	74	7	39	63.67*
over $500	16	36	11	61	

* $p < .05$ at one degree of freedom

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DISCUSSION

Caution must be exercised in making generalizations based on the data presented. Some categories contain a limited number of cases, consequently a small numerical difference may result in an apparent large difference compared statistically. However, the data does indicate a need for modification of current rehabilitation practices and possible pre-service training directions for rehabilitation counselors.

The data revealed information contrary to the literature concerning etiology of hearing impairment. This sample revealed that congenital conditions, which offer a low prognosis for rehabilitation, as the leading cause of hearing impairments, not meningitis. In fact, meningitis ranked last in etiological descriptors. If this trend held true for the population nationally, it would indicate the prognosis for rehabilitation of the hard of hearing Native American population is probably depressed as compared to the total hearing-impaired population.

Personality disorders were identified as the leading single category of additional disability found in this sample. This data should be treated with caution because the classification of personality disorder is based on white middle class norms. Native Americans are often labeled erroneously. This results in elevated percentages of American Indians being classified as disordered or emotionally disturbed.

The data showed as the amount of money spent for an individual's rehabilitation increased, so did his chances of successful closure. This was evidenced by the significant differences found in the number of closures apparently resulting from higher expenditures of funds both during evaluation and training. This trend was also noted for time clients spent in training. This seems to indicate the necessity of the rehabilitation agency and the counselor commitment to the meaningful expenditure of funds along with time in the rehabilitation process. Without such a commitment, chances of successful rehabilitation are reduced. Time in referral and evaluation, on the other hand, did not seem to significantly affect the successful placement of this sample.

The findings also indicate two modifications in pre-service training of rehabilitation professionals who will work with Native Americans. First, professionals who are trained to work with the deaf and hearing impaired should also receive training regarding the Native American cultures. Personnel who understand the culture of the people he is providing services to, will be better equipped to provide appropriate services. Secondly, because of the fact this study revealed a high number of additional disabilities in the sample, agency personnel trained to work with the hearing impaired must also have more than superficial knowledge of other disabling conditions. With the ability to identify associated disabilities, more appropriate services may be offered by the rehabilitation professional, ultimately leading to the increased possibility of employment.

Rehabilitation agencies also need to consider the opening of field offices in locations more accessible to the client seeking services. Personnel who are readily available to clients will have fewer closures for the reason of "unable to locate". Additional successful closures would be facilitated by the increasing of the proximity of services. Further, agencies who provide services to Native Americans should examine their psychosocial evaluations to determine whether Native Americans who were hearing impaired were placed at an additional disadvantage when they were tested with an instrument which has a high verbal loading.

Finally, the amount of information known concerning the hearing-impaired Native American is extremely limited. Further, research is needed if successful rehabilitation of this group is to be the rule. One example is found in the fact that the data indicated a wide discrepancy as to causation of deafness and the successful rehabilitation of the Native Americans in this sample which clear-

ly invites further investigation. This study has only taken an initial step in that direction. A number of correlative studies concerning the significance of many of the factors examined in this study to relationships to the successful rehabilitation of hearing-impaired Native Americans are indicated.

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