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## ISSUES IN ASSESSING VOCATIONALLY RELEVANT PERSONALITY FACTORS OF PRELINGUALLY DEAF ADULTS UTILIZING THE 16PF-E

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In vocational testing, hearing normed test profiles are routinely compared with profiles of hearing people who are successfully employed in a particular occupation. The assumption is that the nearer the client matches this ideal profile the more likely he or she is to be successfully employed in that occupation. The hypothesis which is addressed by this study is that personality factors associated with successful, long-term employment are different for hearing and prelingually profoundly deaf people.

Counseling deaf adults around vocational options presents special problems. For the client, occupational choices can be unnecessarily constricted because they are based on limited criteria. Aptitudes, interests, and personality factors may be discounted in favor of the fact that a potential job entails a minimum of training or communication or that other deaf people do that type of work. Helping a client develop a broader spectrum of options which are at the same time realistic requires some type of evaluation.

Cost factors tend to limit the utilization of personality assessment in a rehabilitation setting. The most effective way of cutting those costs is to use paper-and-pencil questionnaires and inventories (Eber, 1976). Unfortunately, a recurrent theme in the literature on personality assessment of prelingually deaf people is that the use of paper-and-pencil tests normed on a hearing population is at best questionable (Levine, 1981). Three major concerns are commonly cited: 1) test questions are inappropriate in that they are based on the assumption that the testee can hear; 2) reading levels of most tests are too high; and 3) tests reflect cultural and experiential opportunities which may be less accessible or are experienced in a different way by the deaf population.

For a rehabilitation counselor of the deaf

interested in formulating an appropriate individual written rehabilitation plan in as economic and as short a time as possible this presents a major problem, which, assuming funds and resources are available, is often best resolved by referring a client for a situational assessment. Unfortunately, this option is not always practical or available. The counselor is faced with two options. First, based on personal expertise in deafness and on whatever information has been gleaned during the counseling process, the counselor can simply do without an assessment and "wing it". In some instances this is the most appropriate decision. If a client has marketable skills, a good work history, good recommendations, and there is nothing in his or her personal or medical history which warrants otherwise, the benefits to be gained from further assessment are probably negligible.

Second, the counselor can refer the client for assessment and then assess the results. How much experience does the assessor have in the area of deafness? Were the assessment tools the most appropriate available? Were they completely inappropriate? Were they used correctly? How much weight should be given to results in formulating the rehabilitation plan? These are all important and, in many instances, difficult questions to answer.

The results of paper-and-pencil tests from personality assessment of prelingually profoundly deaf adults should be considered with caution. They represent a quick, and somewhat inaccurate, sketch of personality rather than a definitive evaluation. The relationship is similar to the difference between a drawing and Da Vinci's "Mona Lisa". Results should be used to confirm and add to, but not to deny, rehabilitation services.

Tests designed, or at least revised, for use with prelingually deaf adults are nonexistent

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(Levine, 1981; Jensema, 1975). One test has generated quite a bit of interest for possible use with this population. The Sixteen Personality Factor, Form E (16PF-E) was designed for use with adults who have culturally limited backgrounds and who read at the third to sixth grade level. Jensema (1975) states that "although it would be improved by a revision of its items, the 16PF is one of the better tests currently used on hearing impaired individuals" (p. 22).

The pilot study presented in this paper is an attempt to clarify one issue involved in the utilization of the 16PF-E with prelingually profoundly deaf adults in a vocational rehabilitation setting. Aside from the major issues involved in using any paper-and-pencil, hearing normed test for personality assessment of this population, a second area of concern was perceived. The most typical personality profile associated with any occupation is also hearing normed.

**TABLE 1**  
Description of the low & high scores on the 16PF

Factor	Low	High
A	Reserved, Detached	Warm-hearted, Outgoing
B	Less Intelligent	More Intelligent
C	Affected by Feelings	Emotionally Stable
E	Humble, Submissiveness	Assertive, Dominance
F	Sober, Prudent	Happy-go-lucky, Enthusiastic
G	Expedient, Disregards rules	Conscientious, Persevering
H	Shy, Restrained	Venturesome, Socially Bold
I	Tough-minded, Realistic	Tender-minded, Intuitive
L	Trusting, Adaptable	Suspicious, Self-opinionated
M	Practical, Careful	Imaginative, Careless of practical matters
N	Forthright, Natural	Shrewd, Calculating
O	Unperturbed, Self-assured	Apprehensive, Self-reproaching
Q <sub>1</sub>	Conservative	Experimenting
Q <sub>2</sub>	Group Oriented	Self-sufficient
Q <sub>3</sub>	Undisciplined Self-conflict	Controlled
Q <sub>4</sub>	Relaxed, Tranquil	Tense, Frustrated

As its name suggests, the 16PF-E is designed to measure 16 factors or dimensions of personality. Each factor has two poles. A score on a particular factor represents a relative standing on a continuum between two poles based on a specific norm group. For example, Factor A ranges from "cool and aloof" at one pole of its continuum to "warm-hearted and easygoing" at the other. A personality profile consists of the scores on all sixteen factors. Table 1 presents a few of the descriptive terms associated with both poles of each factor.

This test is routinely administered to entering students at Gallaudet College and norms are available for both male and female college students with severe hearing loss. These norms are not appropriate for use with the general hearing population in that Gallaudet students represent particular intellectual and personality capacities (Trybus, 1973) and are presumably primarily in their late teens or early twenties. The norms for males and females of all ages (i.e., the general population) listed in the 16PF-E manual (1976) are, in fact, based on data from a heterogenous sample of rehabilitation clients rather than the general population. As such these norms can be considered somewhat more appropriate for use with rehabilitation clients.

**Procedure**

As part of a project dealing with motivation, job satisfaction and long-term employment (Bannowsky, 1983), sixteen hearing and sixteen deaf adults, who, based on their self-report, were prelingually profoundly deaf, were administered the 16PF-E. The raw scores which were the basis of that study were converted to normed scores and used in this present study.

All of the deaf subjects had been employed continuously at their present job for from three to twenty-seven years (with a mean of 8.41 years). Six of the subjects were women and ten were men. Ages ranged from twenty-eight to fifty-six years, with a mean of 41.62 years. A majority of the subjects were white (twelve). Two were black, one was Oriental, and one was Spanish. Occupations included: word/data processors (five); clerks (four); teachers (two); administrative assistant (one); janitor (one);

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printer (one); and upholsterer (one). The deaf subjects were recruited through a variety of public agencies, religious organizations, clubs, and through an announcement placed in a local TTY newsletter.

Sixteen hearing subjects, matched for gender and occupation with the deaf subjects, were then recruited. Usually this was done by contacting the personnel section of an appropriate business and asking them to refer volunteers. The age of the hearing subjects ranged from twenty-four to fifty-four with a mean of 38.63. Years continuously employed at the present job ranged from three to twenty years with a mean of 6.88. The racial composition was the same as the group of deaf subjects, except that there was one American Indian and, consequently, one fewer white subject in the hearing group. Subjects were not matched on age or race.

All of the subjects came from an urban setting. Fewer of the deaf subjects in this study were employed in the blue-collar, production type jobs than the literature suggests is the norm for the deaf population (Schein and Delk, 1974)

With two exceptions, the procedures for administering the 16PF-E outlined in the 16PF-E manual were followed. Those exceptions included asking the deaf subjects to sign the questions (but not their answers) to the interviewer as they took the test. This was done to make certain the questions were clearly understood. The second exception was that the manual states that Factor B (intelligence) scores should be augmented with additional tests when results are going to be used in situations relevant to vocational counseling. Subjects in the original study were not administered the additional intelligence tests. As a result, Factor B was not included in this present study.

Because the two groups (deaf and hearing) were matched on gender and occupation and given the same test to establish differences in each of the personality factors, the statistical procedure of choice was the t-test. 16PF-E scores are based on a continuous (interval) measurement scale. The direction of the difference in personality factors was not specified so a two-tailed test for fifteen degrees of freedom at the .05 significance level was used. In this instance t scores needed to be greater

than 2.13 before they could be considered statistically significant.

### Results and Discussion

It is important to note that this study concerns itself with the successful adaptive strategies of prelingually deaf adults in a vocational setting. Within this context, scores can be viewed as positive no matter what they may be. The limited number of subjects should be taken into account. It is also important to keep in mind that scores are based on the least inappropriate norms available (adult rehabilitation clients, with separate norms for females and males) rather than on deaf adult, or general population norms. The choice of the 16PF-E for this study should not necessarily be construed as an endorsement, but rather as an illustration of a problem common to all hearing normed paper-and-pencil personality assessment tests used with hearing impaired clients.

Table 2 presents the mean, standard deviation, and t-score for each of the factors for both hearing and deaf subjects. In all but two instances there was no statistically significant difference in the personality factors associated with long-term employment for the two groups in this study. This finding suggests that the 16PF-E has the potential to become a useful component of a vocational guidance test battery when used with a prelingually deaf population.

**TABLE 2**  
**Sixteen Personality Factor Mean,  
Standard Deviation and 't' Scores of  
Prelingually Deaf and Hearing Subjects**

Factor	Hearing		Deaf		't'
	Mean	S.D.	Mean	S.D.	
A	6.19	2.56	8.38	2.73	.77
C	6.44	1.95	6.31	1.66	.27
E	7.44	1.89	7.75	2.14	.5
F**	6.94	1.57	7.69	1.62	2.7
G	3.75	1.95	3.69	1.5	.12
H	6.44	2.86	6.63	2.34	.21
I**	7.44	1.59	5.88	1.2	.29
L	6.31	2.39	6.81	2.39	.52
M	7.19	1.84	6.13	2.05	1.7
N	5.5	1.71	5.56	2.14	.09
O	3.6	1.67	4.56	2.22	1.24
Q <sub>1</sub>	8.56	2.55	8.63	1.67	.38
Q <sub>2</sub>	4.94	2.59	4.31	1.62	.67
Q <sub>3</sub>	5.25	2.32	5.06	2.02	.79
Q <sub>4</sub>	4.69	2.4	4.38	1.45	.51

\*Insufficient information was available to compute Factor B.

\*\*Significant at the .05 level.

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The two instances in which the t-test scores were greater than 2.13 were: Factor F (sober, serious vs. happy-go-lucky, enthusiastic), and; Factor I (tough-minded, realistic vs. tender-minded, sensitive). Prelingually profoundly deaf adults were found to be somewhat more happy-go-lucky and enthusiastic as well as more tough-minded and realistic than were their similarly employed hearing counterparts. Specific norms based on deaf workers would be ideal; however, because of the costs and time involved in developing them, this does not seem likely to occur in the near future. By taking into account the fact that prelingually deaf adults may need to be somewhat more enthusiastic and tough-minded than their hearing counterparts and by augmenting the Factor B section with an additional evaluation of intelligence (which still needs to be researched), the experienced counselor should

be able to get a tentative sense of the "goodness-of-fit" between a prelingually deaf individual's personality profile and the personality profile associated with a particular occupation. It should be remembered that this is a very general observation and, in fact, simply may not be true for each specific occupation.

These findings do not suggest the use of computer generated vocational interpretations which are available for the 16PF. These interpretations are based on the assumption that personality factors associated with long term employment for a particular occupation are the same for hearing and prelingually deaf people. This pilot study suggests such may not be the case. The 16PF handbook provides occupational profiles which can easily be used for comparison purposes and which allow the tester to take the particular nuances associated with prelingually deaf clients into account.

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