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CURRENT DEVELOPMENTS IN THE PSYCHOLOGICAL EVALUATION OF DEAF INDIVIDUALS

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B. Sachs

The topic for this year's PRWAD Psychology Section revolves around this issue: what is happening now, what is new in the area of psychological evaluations of deaf individuals? For years, since Rudolph Pintner first came into the testing picture and used the popular psychological tests of his day with deaf persons, the focus of attention had primarily been on how deaf persons as a group scored lower, or in other ways functioned more deficiently, than a comparable non-deaf group on the same tests. Finally debunking the long-held myth of the general intellectual inferiority of deaf people, Dr. McCay Vernon recently demonstrated that, in intellectual functioning, the deaf population is as normally distributed as the hearing population. Currently, the focus of attention seems increasingly to be on the measurement instruments, on the tests themselves, and the concern here is more with how they may be better adapted and/or changed when used with the deaf population.

There has been a recent upsurge in newspaper accounts about the genetic vs. the environmental arguments to support the so-called findings that black people as a group consistently score lower than white people on standard IQ tests. Just this past January an anthropologist at the University of Pennsylvania was able to demonstrate that it is not the genes but the environment, not race but class, that influenced the IQ's of the blacks. The IQ scores of blacks who attended middle-class schools improved while the scores of whites in lower-class schools declined. Some of you may have had occasion to hear of deaf persons being considered another American minority group. The point I wish to make here is that, if psychological evaluations of deaf persons are to make any sense at all, then the tests themselves need to be adapted, for example, to the language deaf persons use, and the environmental background of the deaf person being tested needs to be taken into consideration in the final evaluation.

The panelists here with us today may wish to make their own points, so I'll begin with Dr. Raymond Trybus, a Clinical Psychologist who has had five years of

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experience in working with the deaf, both in St. Louis and Washington, D.C. He is now a Research Psychologist with Gallaudet's Office of Demographic Studies.

R. Trybus

In the short time that I have available I want to describe to you two areas of work in which the Office of Demographic Studies at Gallaudet College is involved at present. Both relate to the problematic fact that national test data or national norms for hearing impaired students are not available for most of the test instruments which we use in our day to day work, a situation that is certainly not conducive to adequate evaluation of our hearing impaired clients.

The first area involves a modification of the Stanford Achievement Test for hearing impaired students and the establishment of national norms and nationally standardized procedures for test administration for this test series. Our Office has collected national data on the achievement of deaf students in two previous national programs, in 1969 and again in 1971, but in neither case did fully acceptable national norms result, for a variety of reasons. The current project is designed to produce exactly that. I don't think that the Stanford or any other achievement test is ideal by any means — I often remark that our work with the Stanford is simply intended to make it as bad for the deaf as it is with the hearing. What I mean, of course, is that the test has its clearly definable limits, but that within those limits we want the test to be as adequate for deaf students as it is for those with normal hearing.

In this project we are working with a national probability sample of educational programs for the deaf, broadly categorized as residential schools, day schools, and day classes (which includes itinerant programs, resource rooms, special classes in regular schools and other "day class" situations). We have ended up with 123 participating programs enrolling about 10,000 hearing impaired students. Since some of these are of preschool age or will not be tested for one reason or another, we anticipate a tested group of about 6500 for our norming work. In addition to the test data, we will be collecting basic demographic information such as age, sex, cause of hearing loss, ethnic background, additional handicapping conditions, and type of educational program. We will also have information on the methods of communication used at home and in the school, some socioeconomic and other background information on the family, and the student's use of a hearing aid. Later we will also collect data on the characteristics and services of the educational programs themselves.

The publications resulting from this work are scheduled to begin appearing this fall, first of all with the booklets of normative data, then continuing for probably the next two years with detailed analyses of the massive volume of data we will have collected. Again, the Stanford does not say everything that needs to be known about the academic progress and learning of a hearing impaired child, but it is at least the beginning of something which allows national comparisons.

The second area of our present work in the testing field is with about 22,000 intelligence test scores which we collected some time back, in the spring of 1971. The data consist only of I.Q. scores, verbal and/or nonverbal, but not of subtest scores or other more detailed information. What we can do is examine the patterns of usage of these tests and the distributions of the results obtained, as well as the relationships between the test scores and the various items of demographic characteristics which we maintain in our data bank. As for the figures on popularity, the W.I.S.C., the Wechsler Intelligence Scale for Children, was the most frequently used. The next three in order of frequency were the Leiter, the Hiskey-Nebraska, and the Merrill-Palmer. These four tests accounted for 75% of the 22,000 scores; the other 25% were divided among almost 100 other tests. As for the relationships with

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demographic variables, some interesting figures are beginning to emerge. For example, there seems to be a relationship between birth weight and later I.Q. test scores. The mean I.Q. goes up fairly steadily as birth weight increases up to about 9 pounds, then drops off again somewhat. These data will certainly be looked into in greater detail, and our publication on these I.Q. scores is scheduled for early summer of this year, 1974. The overall mean I.Q. score is about 97, including students with additional handicaps. When these students are excluded from the figures, the mean rises about another 5 points for the students who do not have other handicaps in addition to their hearing loss. These figures, then, confirm what many people have found in smaller-scale studies, namely, that the distribution of I.Q. scores among the deaf is about the same as it is in the general population. The standard deviations tend to be 2 or 3 points larger than the comparable figures for hearing students.

There, in a nutshell, is what I have to say. I will develop any further detail you would like in response to questions after the last presentation here.

B. Sachs

The next panelist is Mr. Hartley Koch. Son of deaf parents, he has had several years of experience in working with the deaf in Minnesota, California, and Washington, D.C. He is presently Coordinator of Counseling Services with the Counseling and Placement Center at Gallaudet College.

H. Koch

Raymond B. Cattell, who developed the 16 P.F. — that is, “Personality Factor” test, fervently believes that personality theory will one day take its place among the sciences. He fully expects that man will be able to predict an individual’s behavior with the kind of accuracy with which he now predicts the movement of the planets. He is a mathematician and as such he believes an individual’s personality submits to mathematical formulation.

It was during the 1930’s that Dr. Cattell utilized an approach to personality based upon factor analysis. He discovered that there are certain basic mental factors that can be measured with mathematical precision. Factor analysis allowed him to look simultaneously at any number and kind of measures and determine how they reduce to patterns. It was noted that whenever an individual describes another person, various adjectives are used, like anxious, friendly, dominating, or timid. He believes that the patterns of use of the adjectives would point to the mental factors which made up one’s “personality”. His factor analysis showed that when persons rated or described other persons, they often unknowingly evaluated the strength of some 20 underlying personality factors. Later he derived 12 main factors which were labeled alphabetically from A to O. He did not assign names to them until some years later. Then he obtained 2 names — one for a high score and one for a low score. For example, factor F — with a low score is “sober” and with a high score is “happy-go-lucky”. Later still 4 new factors emerged which didn’t appear at first and these were added to make 16. These were labeled Q₁ through Q₄. These make up the 16 factors of the 16-P.F. test upon which a profile is made. (See Diagram 1)

The difficulties encountered in the psychological evaluation of hearing impaired persons have been frequently noted before by people like Edna Levine, McCay Vernon, and Helmer Myklebust. They appear to be related to several factors. One is the problem of familiarity with the procedures and format of standardized testing. Things like the following often give problems and affect their scores: (1) the alternating between reading an item on a test blank and putting the answers on another separate answer sheet; (2) the ability to pace oneself on a time-limited test; (3)

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DIAGRAM I
STANDARD TEN SCORE (STEN)

LOW SCORE DESCRIPTION	Average										HIGH SCORE DESCRIPTION	
	1	2	3	4	5	6	7	8	9	10		
A RESERVED	OUTGOING	A
B LESS INTELLIGENT	MORE INTELLIGENT	B
C AFFECTED BY FEELINGS	EMOTIONALLY STABLE	C
E HUMBLE	ASSERTIVE	E
F SOBER	HAPPY-GO-LUCKY	F
G EXPEDIENT	CONSCIENTIOUS	G
H SHY	VENTURESOME	H
I TOUGH-MINDED	TENDER-MINDED	I
L TRUSTING	SUSPICIOUS	L
M PRACTICAL	IMAGINATIVE	M
N FORTHRIGHT	SHREWD	N
O SELF-ASSURED	APPREHENSIVE	O
Q ₁ CONSERVATIVE	EXPERIMENTING	Q ₁
Q ₂ GROUP-DEPENDENT	SELF-SUFFICIENT	Q ₂
Q ₃ UNDISCIPLINED SELF-CONFLICT	CONTROLLED	Q ₃
Q ₄ RELAXED	TENSE	Q ₄

A sten of 1 2 3 4 5 6 7 8 9 10 is obtained

understanding and following printed directions; (4) evaluating one's own ideas and preferences on self-report items with *no* 'right' or 'wrong' answers; and (5) the ability to accurately use self-administered tests in group settings. Another problem is that of the language level often used in the items on most tests. An even greater problem, in my estimation, is the difference in concept of what a word means. It appears that often the same word takes on a different conceptual definition when learned and assimilated through the eyes only, rather than having the benefit and reinforcement of both eyes and ears.

For these reasons most standardized tests available today have a very limited value with the deaf. Further is the lack of appropriate normative data to which we can properly compare the deaf person being evaluated. This is true even when the deaf person is being evaluated by a person familiar with deafness and able to communicate with him.

The 16-P.F., which is an objective instrument with respect to item content, response alternative, scoring, and profiling, tends to overcome most of the above mentioned difficulties. However, at first it consisted of parallel forms A & B for high school literate adults. Then forms C & D followed which shortened the test and lowered the reading level to about that of newspaper literacy. Then in 1967 Eber and Cattell devised form E, which was to be used for the large numbers of low-literate adults with a reading level between grades 3 and 6. It then became a potentially valuable instrument for use with deaf adults who typically read in this range.

About three years ago, its usefulness was investigated at Gallaudet College, where the majority of incoming students, though capable, do not meet minimal standards for college admission and are assigned to the preparatory year. This investigation was done by Dr. Trybus here, and the later part of this presentation includes a report of his findings.

This study included 280 students — 142 female and 138 male. Their mean age was 19.6 years. It was concluded that the best comparison would be with the 14-20 year age norm group. The comparisons Dr. Trybus made revealed the following: for females, the greatest difference was on Factor B, the intelligence factor, with the Gallaudet females being substantially brighter than the norm group; however, this is a college group being compared with general norms. Further, Gallaudet females were

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more emotionally stable, more happy-go-lucky, more liberal in their thinking, and more controlled and self-disciplined than the norm averages. They were less suspicious, less apprehensive and troubled, less self-sufficient, and less tense than the norm.

For the males, the intelligence factor again showed the greatest difference in favor of the Gallaudet men. The Gallaudet men were also much more liberal in their thinking, more sensitive and tender-minded, more impulsive and happy-go-lucky, more outgoing, emotionally stable, assertive and aggressive, more bold and venturesome, more controlled and self-disciplined. They were less conscientious, less apprehensive, and less self-sufficient than the referent norm group.

It is most important to remember that these were all students who have sufficient intellectual and personal abilities to have been admitted to Gallaudet College and not representative of the general deaf population in this age range. However, the data derived can prove to be of some use for those of us concerned as to whether a given individual is able to "fit in" at the college. The profiles derived may help us to spot possible areas of special difficulty in adjusting to life as part of the Gallaudet student body. Dr. Trybus cautions that we must keep alert to the fact that these are only indications and not make judgments based upon a profile being divergent from the norms, as a reason for an individual not to apply or be accepted at the college.

We now have given this test to well over 800 incoming students over the last 4 years. This information is being fed into our computer and we plan to study all of this data and, if necessary, revise and update our norms. Then at some point in the very near future, we will study these students and see what categories or variables we can establish. Criterion variables such as student survival into succeeding semesters and years of college and eventually graduation; academic majors students end up with; those seeking counseling for academic or personal problems; problem individuals as seen by college authorities; drop outs; student leaders, both elected and as selected by others; and perhaps several other categories as deemed necessary at that time.

In addition, test scores and possible common profiles may be attempted for other demographic and historical variables, such as the level of hearing loss, preferred communication methods, kind of past schooling, for example, residential vs. day school, deaf and hearing parents, etc.

The average profile obtained and the data involved can and will assume real predictive value for us at the college, when and only when the relationships of test scores to criteria of this kind has been firmly established. This involves a constant study of the data, keeping proper norms and a continued vigilance to keep the data updated. This is being done by the Counseling and Placement Center staff at the college.

Basically, Dr. Cattell's theory that a person's personality can be submitted to a mathematical formula and is predictable bothers me somewhat. Yet, he does have something that we must look at and can use, as indicators and possible predictors, of future behaviors. There do appear to exist some common basic factors or variables and if they can help us to project and predict the future of our students, so that we can provide some preventive measures, they will have served us and, more importantly, out students very well.

B. Sachs

Our third panelist is Mr. Roger Falberg, who has had 13 years of experience in working with the deaf, mostly in the mid-West and the Northwest. Like me, he is deaf. He is now a Psychologist and Counselor of Deaf Adult Services with the Seattle Hearing and Speech Center.

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R. Falberg

Among psychologists and practitioners of other professional disciplines involved in the evaluation and training of adults with early severe hearing impairments, it has long been accepted dogma that the levels of intellectual functioning of persons comprising this group cannot be *validly* assessed by the use of verbal instruments. While it is accepted that verbal scores do not yield a valid estimate of the intelligence of by far and away the majority of persons with early severe hearing impairments, I have found that the administration of the Verbal Scale of the Wechsler Adult Intelligence Scale has important *diagnostic* value.

It should be understood that the use of this scale is advocated *only* when done as a part of a *comprehensive* psychological evaluation. It is preferable that such an evaluation be done in concert with social work, audiological, communicative, educational, and vocational evaluations — with a psychiatric evaluation a highly recommended (but seldom feasible) option. With the young multiply-handicapped deaf client, an evaluation of independent living skills on an everyday basis is also recommended.

When considering diagnostic value, all of the concepts of Rappaport become highly pertinent. The Arithmetic and Digit Span tests are valuable measures of ability to concentrate and attend, respectively. Disturbances in attention span are important diagnostic factors in the evaluation of reality contact and brain damage. The Comprehension subtest is a useful guide to the client's level of sophistication and knowledgeable ability of the world around him, as well as a good index of his judgment and expressive skills. It also appears especially sensitive to serious emotional disturbance. Store of factual information about the world around him and capacity to bring this knowledge into play in a stress situation is measured by the Information subtest, and the Vocabulary subtest gives some clue as to his scholastic standing. Bizarre or unusual responses from a prelingually deaf person on any or all of these subtests can be just as diagnostically useful as they are with normal-hearing subjects, *provided the examiner is reasonably confident that the deaf client had at least a vague understanding of the meaning of the question.*

It will be readily admitted that the majority of prelingually deaf persons cannot handle the syntax of the standardized questions in the WAIS. For this reason, the author and two colleagues (Drs. Richard Thompson and Leon O. Brenner), using Levine's (1960) modifications as a guide, compiled a revised set of questions for the WAIS Verbal Scale. These are presented in Appendix A. The general manner of presentation is as follows: a small looseleaf notebook holding plain 5½ x 8½" pages is compiled and divided into sections with plastic-tabbed dividers. Only one question is typed on a single page, thus enabling the examiner to present one question at a time in the standard fashion. When the subject has attained the standard number of consecutive failures, the examiner then uses the cellophane tabs to skip the remaining questions and begin the next subtest. To reassure the subject, it is generally necessary only to indicate that the examiner has enough data and there is no need to continue with the same section. In my experience, only a single subject was sufficiently paranoid to become overtly upset and agitated by the fact that not all questions were presented to him.

A by-product of this procedure is that the notebook can easily be arranged in such a way that the *standard* verbal questions can also be included so that they are on the reverse side of the notebook in their own sections with their own dividers. This facilitates the evaluation of the verbal skills of clients having only mild hearing impairments, the rare "high-verbal" prelingually deaf person, and those whose hearing impairments occurred after the formation of adequate language skills — the *post*-lingually deafened. With these groups, the resulting findings are often fully valid

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and can be treated as such. Another consideration is that the procedure often enables an examiner who himself has a severe or profound hearing loss to administer the Verbal Scale to persons with losses of less severity without worrying about the quality of his voice or his pronunciation. (An interpreter can be used, if necessary, to convey the subject's responses to the examiner.) While normal-hearing examiners are ideal in this type of situation, I — being deaf myself — have experienced emergencies and contingencies which necessitated resorting to the use of an interpreter.

Another objection to the administration of the Verbal Scale to prelingually deaf subjects is the concern that the subject will be unduly frustrated and that rapport will be destroyed. This is a very real concern, and must be taken into consideration at all times. The questions should *never* be presented at the beginning of an evaluation. I usually administer a paper-and-pencil test of non-verbal concept formation first, following with the Performance Scale, memory and perceptual tests, the Verbal Scale, and, finally, projective instruments. If it is felt that the client is more than usually defensive, or if his reading level appears to be "borderline," then the Verbal Scale is administered *after* the presentation of the projectives. It is also wise to precede the first questions with reassurances to the effect the the examiner understands that deaf people have difficulty with language, and that he only wants to administer the questions to determine where the client stands. The whole thing should be presented *very casually*; if the examiner becomes uptight and defensive, the subject will react negatively. When the subject says he does not know a response or that he does not understand a question, the examiner simply makes a note of the fact and flips a page of the notebook. *Standardization* is the reason for this procedure and the reason why the use of the Language of Signs is not resorted to except for the Digit Symbol subtest; it is almost impossible (without the use of film) to standardize the signs, the emphasis of each sign and the facial expression, and "body language" of the examiner for all subjects. Reassurance, however, is liberally applied whenever necessary through the use of the Language of Signs (if appropriate).

The decision of whether or not to attempt the Verbal Scale at all is a very important one. If a Verbal should have been given but was not, the lost diagnostic data can only be retrieved after a great deal of extra time is spent reassuring the client that he did not do something he should not have done when the other tests were given, that he is not "crazy" and that there is nothing out of the ordinary about the administration of the Verbal Scale itself. On the other hand, if the Verbal Scale is administered and it becomes quickly obvious that it is an exercise in futility, it can readily be abandoned and the subject is usually easily reassured, if not relieved. In general, the subjects' scores on standard achievement tests in reading and reading comprehension are reliable guides. If the client's score is better than the fifth grade level, it is usually "safe" to administer the modified Verbal Scale. If the score is between the third and fifth grades, the subject should be considered "borderline" and the presentation of the Verbal Scale is made — but quickly abandoned if the client is overly disconcerted, frustrated, and/or unable to comprehend any of the first four or five questions presented. (If the psychologist does not have access to the client's reading scores, he should administer an achievement test battery himself *before* the Verbal Scale is attempted.)

In discussing each of the subtests individually, the reader is cautioned to refer to Rappaport (1968) for a much more thorough discussion of the diagnostic value of each of the subtests in the *modified* Verbal Scale. What follows is not an attempt to deal exhaustively with this aspect, but to share my experience with interested readers and fellow professionals who may wish to enlarge their test batteries and bring into play more of their diagnostic skills when evaluating prelingually deaf clients. In each of the discussions, "average" scores available to me for those subjects I evaluated over the past two or three years are given but are *not* intended to serve as "norms." *They*

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are meant only as guidelines. They are the average scores of 38 clients seen in the Deaf Adult Services Department of the Seattle Hearing and Speech Center. The average age of the group was 20.97 years, average Performance IQ was 102, modified Verbal IQ average was 77, and there were some brain-damaged and emotionally disturbed persons among them. All were prelingually deafened, but no effort was made to control the degree of hearing loss. As will be seen, this is *not* an authentic experimental group where the variables are carefully controlled, and it is not presented as such.

The Information Subtest — The average score on this test was 6.4. The first question is almost universally known, and usually puts to rest a subject's original anxieties. (With one exception to be discussed later, it is best always to administer the questions that are usually reserved only for the obviously retarded, because of their reassuring effect on the client.) Prelingually deaf clients often have the most difficulty with questions that require a modicum of judgment, such as the Height, Clothes, Paris, and Population questions. Longfellow and Hamlet are other difficult ones.

The Comprehension Subtest — This is one of two subtests in which the prelingually deaf clients seen by the writer are almost invariably weak in relation to their other scores. The average was only 4.8 — second lowest of all the subtests. Surprisingly, very few can give fully satisfactory answers to the Deaf question — if they get that far. Those with poor judgment and sophistication usually begin failing after the Envelope item, and the subtest — as noted previously — is extremely sensitive to emotional disturbance. To obtain a satisfactory interpretation of the “proverbs” is extremely rare, and it is best to eliminate the final two questions in order to reduce frustration.

The Arithmetic Subtest — The average score here was 6.3, even though the writer adheres to the standard procedure of refusing to permit the use of pencil and paper. Occasionally a client will give the examiner some difficulty over the fact that he cannot use paper and pencil, but most of them are cooperative. This subtest is the “exception” referred to previously; the first item is unnecessary and is never administered. Quite often, clients will have surprising difficulty with inches and feet — although this seems to vary depending on educational background. That is, clients from one residential school for the deaf will do better than those from another, etc. Sometimes, clients will do surprisingly well in spite of poor reading skills. Recently, one client mulled over the final, most difficult questions for 30 seconds past the standard time limit and then came up with the correct answer!

The Similarities Subtest — according to Myklebust (1960), verbal abstract concept formation is the most difficult area for the prelingually deaf. While the writer does not dispute this as a generality, the average score on this subtest — which taps verbal concept formation — was 6.4. The Similarities subtest, in fact, tied with the Information subtest for the *highest* average score, although it will readily be admitted that a test for the significance of the difference between the various subtest means has not been attempted. The task is somewhat difficult to administer, as the instructions are more complex. The writer gives them using whatever means of communication is preferred by the client; speech and/or lip movements, fingerspelling and the Language of Signs, or all three simultaneously. As a rule, prelingually deaf clients will do well as long as they can give single-word responses. Where they are forced into more complex explanations of similarities, they encounter difficulties. Occasionally, a very rigid client will go so far as to insist that none of the pairs have any similarities between them at all, and will go on to elaborately explain why. This in itself is very helpful diagnostically, and with some clients may be suggestive of their attitudes towards authority. Another aspect of this subtest is that, like the Comprehension subtest, it is also sensitive to emotional disturbance. In addition, the examiner will frequently see indications of the individual's ability to tolerate frustration.

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The Digit Span Subtest — The decision of whether to administer this subtest usually depends upon what variable it will be measuring if it is administered. If the subject is post-lingually deafened or severely hard-of-hearing and does not understand the Language of Signs, the writer omits it because *lipreading ability*, rather than memory, will be the variable under examination. The stress of lipreading cannot be compared with the relatively relaxed ‘stance’ of normal-hearing subjects listening to numbers. The average scores for prelingually deaf young adults was 5.1 when the numbers were simultaneously spoken and fingerspelled at the standard rate. This is rather surprisingly low considering the fact that language skills are not involved in this particular task. Furth (1966) also found that a group of deaf persons did relatively poorly on this task, and hypothesized that deaf people do not have as frequent need to memorize numbers as do the hearing, and the finding here appears to support him.

The Vocabulary Subtest — Perhaps predictably, this subtest yielded the lowest average of all those in the Verbal Scale — 4.5. It is administered very simply by presenting the printed list that is an integral part of the WAIS kit sold by the manufacturer — although some have suggested that the sudden presentation of such a long list is potentially disturbing to the client, and it would be better to type the words on index cards in groups of five to be presented one at a time in order to reduce feelings of frustration and inadequacy on the part of the client. It is best for the examiner to record responses as “verbatim” as is possible on this and all other subtests. Some interpretation cannot be avoided, of course, but an effort should be made to retain the “flavor” of the client’s responses — whether they were short and blunt or melliflous and drawn out.

One of the most diagnostically helpful “keys” in the use of the Verbal Scale with this population group is the “gap” between the clients’ Verbal and Performance IQs. As a “rule of the thumb,” the writer has always viewed a gap of about 20 points to be “average.” With the group of 38 clients from whom the findings presented in this paper were gathered, the average gap was 25 points. It must be kept in mind, however, that the clients seen included many brain-damaged and emotionally disturbed persons, and the gap of 20 points may still be more realistic for deaf adults in general. This gap is significant in terms of the degree to which the client is fulfilling his educational potential in comparison with others having a similar handicap. If the gap is greater than 25 points, the client’s background should be very carefully examined for current or past developments that may have contributed to emotional instability which interfered with educational progress, and a recommendation for remedial educational tutoring should be carefully considered. If, as rarely happens, the gap is less than 15 points, it should be kept in mind that the client may be unusually well motivated in the area of education and, depending upon the client’s current level of performance, referral to higher educational facilities needs to be considered. In clients with Bright-Normal Performance IQs or better, a gap of less than 15 points should be considered evidence of extremely high educational motivation.

Again, the reader is reminded that while the scores on the Verbal Scale are not indicative of the level of intellectual functioning of adults suffering severe prelingual hearing impairments, psychologists are advised to make an effort to utilize a modified and simplified version of this scale in a comprehensive evaluation in order to make a thorough diagnostic assessment. This is not only for the psychologist’s benefit; every strength that he can find in a client will assist in making recommendations that will result in enabling this client to utilize *all* of his potentials. And *that* is what rehabilitation of deaf people is all about!

APPENDIX A

Below are the modifications used by the examiner and developed in cooperation with Drs. Richard Thompson and Leon O. Brenner in Boston. Only modified

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questions are given below, and items with alterations that are identical with or very similar to those suggested by Dr. Levine (1960) are marked with an asterisk.

INFORMATION SUBTEST

6. Name four men who were presidents of the United States after 1900.
7. Longfellow was a famous man. What did he do?
9. Is Panama north, south, east, or west of Chicago?
11. How tall are most American women?*
13. Why are clothes with dark colors warmer than clothes with light colors?
17. How many miles is it from Paris to New York?*
19. How does yeast make dough rise?
20. How many people are there in the United States?
22. What is the Book of Genesis about?

COMPREHENSION SUBTEST

3. Make believe that you are walking on the street. You find an envelope there. There is a letter in it. The envelope is closed. There is a name and address on it. It has a new stamp on it. What should you do with it?
4. Why should we keep away from the wrong people?
5. Make believe you are watching the movies. You are the first person there to smell smoke and see fire. What should you do?
7. What does it mean when people say: "Strike while the iron is hot?"
8. It is against the law for children to work all day. Why do we have this law?
9. Make believe you are lost in a forest. It is daytime. How will you get out?*
10. Small children who are born deaf do not know how to talk before they go to school. Why?
12. Why does the state require people to get a license before they can marry?

ARITHMETIC SUBTEST

4. A man buys 6¢ worth of stamps. He gives the man 10¢. How much money will he get back?*
5. A man sold newspapers to six people. The papers cost 25¢ each. How much money did he get in all?
7. If one orange costs 6¢, how many oranges can you buy for 36¢*.
8. If a man walks 3 miles an hour, how many hours will he walk to go 24 miles?*
9. A man buys 7 stamps. Each stamp costs 2¢. He gives the clerk 50¢. How much money will he get back?*
10. A man has \$18.00. He spends \$7.50. How much does he have left?
11. Two cans of peas cost 31¢. How much will one dozen cans cost?
12. A man bought some used furniture. You know that used furniture costs less than new furniture. He paid \$400.00 for the used furniture. This was $\frac{2}{3}$ of what the furniture cost when it was new. How much *did* the furniture cost when it was *new*?
13. A worker's pay should be \$60.00 a week, but the government takes 15% out of his pay for taxes. How much money does he really get each week?
14. Eight men are working on a job. They can finish it in 6 days. If the job must be finished in $\frac{1}{2}$ day, how many men do we need?

PSYCHOLOGICAL EVALUATION

B. SACHS

Now that the three panelists have had their "points" made, I would like to share with you one of several findings from the work I have been doing on my Ph.D. dissertation.

Many of you are aware, I'm sure, that when it comes to an experimental study, it is necessary to measure whatever it is one wants to measure with a measuring instrument. Such instruments may take the form of tests, scales, ratings, or even simple counts.

I became fascinated with the possibilities of measuring certain relationship qualities between psychotherapist and patient, or between counselor and client, particularly where the patients or clients are deaf. There is a scale that measures components of such a relationship: the Barrett-Lennard Relationship Inventory.

This Relationship Inventory (R.I.) was developed to measure the Rogerian conditions of the therapist's empathic understanding, congruence, positive regard, and unconditionality of regard. Barrett-Lennard assumed that a patient or client is most directly influenced by what he experiences and perceives his therapist's response to him to be in the relationship with his therapist. It appeared, from this viewpoint, most meaningful to use patient or client perceptions as the basic data from which to assess the effective therapeutic quality of a relationship.

A problem came up when considering the use of the R.I. for my experimental purposes. The R.I. required a reading level of at least the 8th grade, while that segment of the deaf population used as subjects in my experiment could not read beyond the 4th grade level.

This is the age of the videotape, however. The possibility occurred to me to get around this perennial reading/language difficulty when using deaf subjects by the simple expedient of translating the R.I. from English into American Sign Language (Ameslan) onto videotape. To my knowledge, Hoeman's study ("Communication Accuracy in a Sign-Language Interpretation of a Group Test") is the only one to date that attempted a similar sort of translation. No videotape was used, and the experimenter translated from English into Signed English, not Ameslan. The measuring instrument Hoeman used was sort of a homemade kind, patterned after the WAIS verbal subtests. He found, however, that the reliability of this instrument, translated thus, was very low. Among other considerations, he felt this might have been due to the "stilted" Signed English translation, much as one would find "stilted" English when a too-literal translation is made from a foreign language.

Barrett-Lennard found good test-retest reliabilities for his R.I., with coefficients ranging for the subtests from 0.79 to 0.91 in one sample and from 0.86 to 0.92 in another. Other good reliabilities have been reported. In the videotaped translation of the R.I. into Ameslan, the alternate-form reliabilities were similarly high, with coefficients ranging from 0.75 to 0.90. It appears that, whatever may get "lost in translation," the Ameslan R.I. is nevertheless a very good approximation of (and substitution for) the original scale.

What impressed me the most, other than finding correlation coefficients this high, were the reactions of the deaf persons who watched the Ameslan R.I. on videotape: they demonstrated the unmistakable laughter of recognition, the delight of seeing test questions asked in their own language.

I hope this small example of what can be done with today's technology gives you all food for thought. Psychological tests and questionnaires appear in French, German, and other languages; why not Ameslan also? Where once it had not really been possible to psychologically evaluate severely handicapped deaf persons, the outlook today for doing so certainly appears brighter and more possible.