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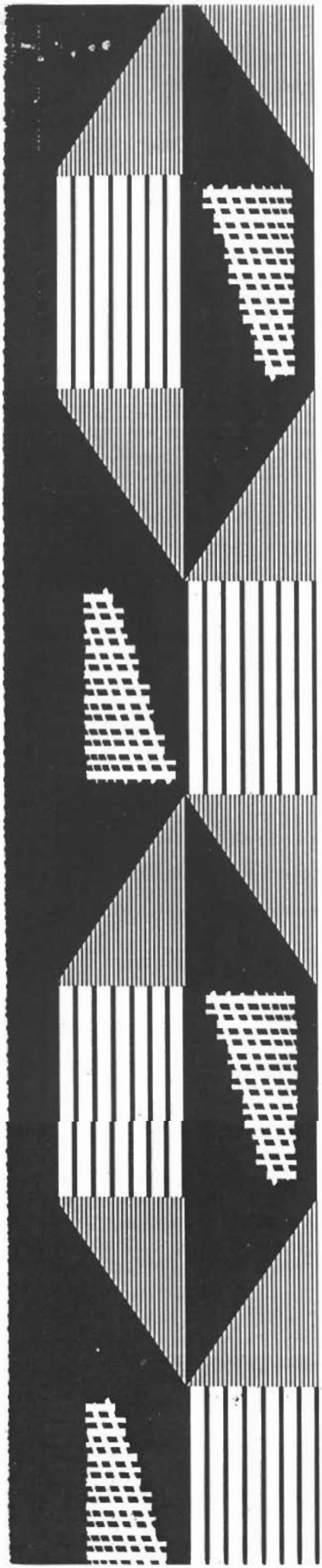

N I D C D M O N O G R A P H

COMMUNICATION DISORDERS AND STROKE IN AFRICAN-AMERICAN AND OTHER CULTURAL GROUPS: MULTIDISCIPLINARY PERSPECTIVES AND RESEARCH NEEDS

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Considerations for Speech and Language Assessment of Multicultural Populations Following Stroke

Kay T. Payne, Ph.D.

Assessment of speech and language disorders is conducted to quantify and qualify patient behaviors. The clinician's philosophical basis for testing will flavor test selection, administration and interpretation. In addition, a culturally and politically perceived definition of "normal" permeates, and indeed dictates, what is assessed, how behaviors are examined, as well as interpretation of observations.

Clinical assessment of aphasia is directed toward the following determinations: differential diagnosis, syndrome or type of disorder, severity, suitability for treatment and avenues for treatment (Golper, 1996). While a complete description of the disorder is necessary, the ultimate value of assessment lies with its relevance for treatment. Efficacy of treatment is directly related to the quality of assessment.

Numerous epidemiological studies establish the disproportionately higher incidence of stroke and concomitant communication disorders among multicultural populations (American Heart Association, 1994; American Medical Association, 1991; DHHS, Public Health Service, 1994; National Center for Health Statistics, 1993; Saunders, 1991; Wallace, 1993; Yatsu, 1993). Thus, it is imperative that assessment methods and instruments reflect multicultural aspects of communication differences so that treatment outcomes may more adequately address this urgent health situation.

This paper examines cultural biases in existing assessment instruments widely used with African Americans and other multicultural groups. It advocates for consideration of cultural differences in attitudes toward causes of disabilities, as well as outlooks for recovery. It further examines specific test items in relation to various cultural beliefs. Intermediate alternative remedies are provided, yet the need for long-term solutions is defended.

Nature of Cultural Bias

To understand the notion of cultural bias in assessment, several definitions are necessary. First a definition of culture. It is perhaps more efficient to elucidate what culture is not rather than to attempt an all encompassing definition of what culture is. Culture is not race, religion, nationality, ethnicity, linguistic group or social class. Moreover, culture is not merely practices such as holiday celebrations, clothing, artistry, food, etc. Culture is a dynamic abstraction which may entail the above elements, but also incorporates a homogeneity of beliefs, political

views, values, cognitive styles and communication systems. As an acute example of culture vs. race, Africans, African Americans and West Indians are racially the same, but distinct on many of the above cultural elements. Culture represents the organization or framework of a singular group's reality. It is the knowledge and cognitive processes which define and dictate a group's behavior.

A definition of bias is also relevant. Bias exists when there is an unintended discrepancy in performance which is observed consistently in a group due to artifacts of the measurement instrument. A cultural bias exists when artifacts of the instrument can be related specifically to elements of culture. Taylor and Payne (1983) list types of bias in standardized speech and language assessments including situational bias, bias in directions or format of the instrument, value bias, stimulus bias, linguistic bias and examiner observation bias. A less obtrusive bias may result from the standardization process, that is, in selection of the norming population.

It is also of importance to examine the distinction between diagnosis and assessment. Diagnosis involves a subjective classification process of placing behavior characteristics into a context in order to determine if a disorder exists and its level of severity, and differentiating its qualities from other conditions with similar characteristics. To a skillful clinician, a diagnosis can be made from observation based upon a definition of aphasia and a general perception of normal communication. Aphasia can be recognizable as a disorder when it is present without regard to culture or language group.

Assessment, or appraisal, is the process of calibrated measurement. Implicit in this definition is the need for a yardstick or standard against which a quantity is held for comparison. Of course, in speech and language assessment, this standard is never based on the linguistic behaviors of multicultural groups. Yet it is firmly established that language is an integral aspect of any culture. In addition, for assessment instruments the concept of normalcy is defined statistically, typically as two standard deviations below the mean performance of the standardization group. However, standardization groups typically do not contain an adequate representation of multicultural groups. Other aspects of a test including its administration procedures and stimulus items may render the instrument culturally biased.

The issues of cultural bias are clear when the instruments are given to children. Biased assessment instruments have resulted in misdiagnosis of communication disorders, misplacement of children in special education and alienation of children due to dialect differences. For adults, however, the issue of cultural bias is not misdiagnosis. The cultural bias in aphasia instruments is related directly to assessment. Since assessment is crucial to the outcome of treatment, culturally biased instruments can lead to inappropriate or improper treatment procedures and unsuccessful outcomes.

At this juncture, it is logical to explore the genesis of cultural bias. Unintended mismatches in the instrument expectations for responses and those expressed by the patient are most often the result of differences in cultural perceptions and beliefs. Figure 1 presents some beliefs and practices of various cultural groups relative to health care and disability.

Figure 1 lists some of the prominent cultural beliefs of five major cultural groups in the U.S. according to health care, causation of illness and attitudes toward disability. It should be noted that, as extracted from Lynch and Hanson, (1992), the beliefs represent traditional cultural tendencies rather than absolutes. This means that within each cultural group, exceptions to these beliefs will be found.

The evidence of Figure 1 is striking in that it reveals that American Indian, African American, Hispanic and Asian beliefs are more similar to each other than beliefs of Anglo-Europeans. Core values of significant difference between Anglo-Europeans and other groups are individual locus of control, or the belief that each person determine his/ her own destiny, and emphasis on science and technology. It is noteworthy that other cultural beliefs based on external (supernatural) locus of control are steadfast and pervasive. Indeed among the more traditional members of other cultural groups, western medical practice is ancillary and secondary to traditional practice.

Cultural biases emerge when western beliefs and practices are held as the standard for assessment instruments and treatment practices. In assessment, western approaches are premised on the basis that test instruments are standardized and that limited observation under strict test administration procedures will yield reliable, valid and predictable results. It is expected that individuals being tested hold this belief and perform according to the test expectations. However, when the beliefs of multicultural groups are considered, it may be observed that scientific explanations are of little value and individuals are not motivated to perform the required tasks of the test.

In treatment, western beliefs hold that disabilities are explainable by science and that they can be prevented and overcome. Yet, members of other cultural groups may believe that disabilities are the result of evil, punishment, misfortune or other sociocultural explanations. Missed appointments, lack of motivation and failure to follow through on assignments may be reflective of these cultural beliefs.

Examination of Test Items

This section presents an examination of four test instruments used to assess patients with syndromes resulting from stroke and other acquired neurological impairment. Several types of bias are noted involving the norming population, as well as the stimulus items. The most prominent bias is that none of the norming populations uses an adequate number of individuals from multicultural groups. In addition, there are no stimulus items in any of the tests which are reflective of the environment of other multicultural groups. Figure 2 gives specific examples of stimulus item bias for the Ross Information Processing Assessment [RIPA] (Ross, 1986); the Boston Assessment of Severe Aphasia [BASA] (Helm-Estabrooks, et al, 1989); the Western Aphasia Battery [WAB] (Kertesz, 1982) and the Boston Naming Test (Goodglass and Kaplan, 1983).

Considering the potentially biased items in Figure 2, the effects can be severely penalizing to multicultural groups. In the RIPA, 24 items are potentially biased. Scores may be depressed for multicultural groups in five of the 10 subtests. Moreover, the RIPA allows the clinician to determine, in addition to raw scores, diacritical scores as follows:

c - confabulation: The subject responds with fictitious events or information to fill in memory loss of information gaps.

d - denial or refusal: A denial of " I don't *know*", "No, I can't".

dl - delay: A delayed or hesitated response.

e - frank error: An entirely wrong answer as opposed to a partially correct or incomplete answer.

i - irrelevant: The subject provides an initial correct response and adds further information which is not relevant to the stimulus.

r - repetition: A repeat of task instructions or a stimulus item requested by the subject.

sc - self-correction: The subject responds with an error and self-corrects to a correct response without clinician cue or assistance.

t - tangential: A correct response is elicited from the subject and is followed by excessive extraneous information not related to the response or the stimulus.

It is obvious that the diacritical scores are extremely subjective and easily subject to misinterpretation of a cultural responses.

The BASA contains seven (11 percent) potentially biased items within a total of 61 items. The WAB contains 28 potentially biased items. Scores would be affected on five subtests including Information Content, Yes/No Questions, Word Fluency, Responsive Speech and Reading.

The Boston Naming Test contains seven potentially biased items of 60 stimulus pictures. Moreover, none of the stimulus items reflect objects in the environment of other multicultural groups.

Intermediate Alternative Solutions

There are no alternative solutions which are easily achieved and currently accessible to the working clinician. Vaughn-Cooke (1983) provides alternatives to the use of assessment instruments with children. Her suggestions range from modifying testing techniques, items and scoring to not using tests which cannot be modified. Also included among her suggestions are using language samples of spontaneous speech and re-norming tests for specific cultural groups.

For the adult aphasic patients, additional alternatives are necessary. There is no dispute that clinicians must learn about the patient's premorbid sociocultural history and linguistic system. Coleman and Wallace (1996) and Holland (1975) discuss the value of ethnography or naturalistic field observations in aphasia assessment. Most scholars would agree, however, that there needs to be some systematic process of analysis of field data and naturalistic speech samples. Thus, there is a need for a uniform procedure of field observation, analysis and triangulation for assessment of language and communication function in aphasic patients.

The use of ethnography in aphasia assessment will require a paradigm shift for clinicians away from what Cooper and Cooper (1994) describe as the "frequency fallacy" that is, a dependence on test scores and rapid administration of test instruments. However, the results of ethnographic assessment will be unquestionably more beneficial to multicultural populations.

Long Term Solutions

The U.S. Census (1990) reports that multicultural groups will comprise almost one-third of the nation in the coming 21st century. As a result, what is currently accepted as the "standard" for assessment, that is, beliefs, values, and language behaviors of Anglo-Europeans, will not be relevant for a sizeable number of individuals with whom tests will be used. Thus, new tests and new assessment foundations which reflect the future demographic makeup of the nation will be imperative.

In order to eliminate cultural bias, stimulus items for future tests must not only be reflective of other cultural groups, but perhaps more importantly, consideration must be given to the very nature of the tasks. Normative samples for new tests must be based not upon population demographics but rather on epidemiological demographics of stroke. In this way, adequate numbers of multicultural groups will be included when the standard is determined statistically.

In order to develop new tests that eliminate cultural bias, much information will be needed about existing tests. Modern technology can be of great assistance. Clinician experiences in using current tests with multicultural populations can be gathered in a national project using the Internet to identify biased items and pitfalls of current instruments to be avoided in creating new tests.

Finally, ethnographic assessment must be understood, accepted, and embraced and taught in training programs. In addition, new research using qualitative methods must be accepted for its scientific value and the in-depth contributions it can make to understanding multicultural groups.

With the changing demographics, it will be necessary for scholars to reassess what is considered as current knowledge with direct reference to relevance to multicultural groups. While new qualitative studies will reveal specific information about cultural groups, foundational studies from which assessment principles are drawn must then be replicated to affirm their applicability to other cultural groups. With these and other creative solutions, the field of aphasiology will take a new turn in the direction of the 21st century and beyond.

FIGURE 1

Cultural Values and Beliefs Toward Health Care and Disability

	Anglo-Europeans	American Indians	African Americans	Hispanics	Asians
Health Care	value on technology emphasize prevention desire to prolong life pharmaceutical treatment	tribal healers ceremonial rituals	lack of access home remedies technology for trauma situations	natural healers spiritualists symbolic rituals use of amulets	spiritual ceremonies herbal medications accupuncture
Causation	individual locus of control non-fatalistic	external locus of control fatalistic multiple causality supernatural events disturbance of balance	punishment from deity work of the devil fatalistic	works of evil fatalistic folk beliefs	supernatural focus on symptoms rather than cause folk beliefs punishment
Disability	scientific causes preventable self-help use of compensatory devices	sociocultural explanation of cause	due to misfortune acceptance	"act of God" acceptance related to socio-economic status	viewed with considerable stigma

Source: Lynch, E. and Hanson M. (1992)

FIGURE 2

POTENTIAL ITEM BIAS IN TESTS OF APHASIA AND COGNITIVE PROCESSING

TEST: ROSS INFORMATION PROCESSING ASSESSMENT (RIPA)

SUBTEST	ITEM#	
II Recent Memory	1-4	How long have you been in this hospital? What month is it? What day of the week is it? What building are you in?
III Temporal Orientation	1-10	What year is it? What season are we in? What month is it? What was last month? What date is it? What day of the week is it? About what time is it? What was our last holiday? How long have you been in the hospital? BIAS: Certain individuals of American Indian decent may respond with silence to obvious questions.
VII Recall of General Information		
	6	What war involved the North and South? BIAS: Different answers may be given for Koreans, Vietnamese, and other immigrants.
	7	Who was the first president? BIAS: Not common knowledge for many immigrants.
	8	Who discovered America? BIAS: African Americans and American Indians may not acknowledge Christopher Columbus.
	10	Who was Helen Keller? BIAS: While commonly known to most Anglo-Europeans, this may not be known by other cultural groups.
VIII Problem Solving and Abstract Reasoning	7	What does "Don't cry over spilled milk" mean?
	8	What does "Waste not, want not" mean? BIAS: Idioms of English are not familiar to speakers of other languages.
IX Organization	1	Name as many animals as you can in one minute.
	2	Name as many fruits as you can in one minute.
	3	Name as many states as you can in one minute
	4	Name as many foods as you can in one minute BIAS: Some cultures such as American Indians display contemplation before answering question. Other cultures such as African Americans and Hispanics do not perceive time as monochronic.

FIGURE 2 (CONTINUED)

TEST: BOSTON ASSESSMENT OF SEVERE APHASIA (BASA)

ITEM #	
4	What happened to you?
	BIAS: Beliefs about causation may differ for African Americans, Hispanics, Asians and other cultures. Accordingly patients may be reluctant to answer or give nontraditional explanations.
17	Could you sing "Row, Row, Row Your Boat"?
	BIAS: May be unfamiliar to immigrants and speakers of other languages.
24	Show me how you salute (or pledge allegiance to the flag).
25	Show me how you shake your finger at a naughty child.
	BIAS: Both gestures may be unfamiliar to many cultures.
47	Who is this: Adolf Hitler, WC. Fields, Marilyn Monroe. Alternates:The Honeymooners, John Wayne, Clark Gable
	BIAS: Adolf Hitler may be offensive to Jews and WWII veterans. Personalities may be unfamiliar to many cultures.
54	Tell me what this is: Swastika
	BIAS: May be unfamiliar to many, offensive to Jews and African Americans, embarrassing to German immigrants.
55	Match swastika and Hitler
	BIAS: May be unfamiliar to many, offensive to Jews and African Americans, embarrassing to German immigrants.

FIGURE 2 (CONTINUED)

TEST: WESTERN APHASIA BATTERY (WAB)

SUBTEST	ITEM #	
I Information Content	2-4	Have you been here before? What is your name? What is your address?
	6	Tell me a little about why you are here or what seems to be the trouble
		BIAS: Certain individuals of American Indian descent may respond with silence to obvious questions.
II Yes/No Questions	1-20	Is your name Smith? Is your name Brown? Do you live in Toronto? Are you a man or a woman? Are you a doctor? Am I a man or a woman? Are the lights on in this room? Are you wearing red pajamas? Is this a hotel?
		BIAS: Certain individuals of American Indian descent may respond with silence to obvious questions.
IV. B Word Fluency		Ask the patient to name as many animals as he or she can in 1 minute. The patient may be helped if hesitant: "Think of a domestic animal, like the horse, or a wild animal, like the tiger." The patient may be prompted at 30 seconds.
		BIAS: Some cultures such as American Indians display contemplation before answering question. Other cultures such as African Americans and Hispanics do not perceive time as monochronic.
IV. D Responsive	1	What do you write with? (pen, pencil) Speech
	2	What color is snow? (white)
	3	How many days are in a week? (seven)
	4	Where do nurses work? (hospital)
	5	Where can you get stamps? (post office, variety store)
		BIAS: Certain individuals of American Indian descent may respond with silence to obvious questions.
V. A Reading	7	Energy used to be relatively plentiful. Due to oil shortage, many nations are turning to alternate sources such as...boiling water, the banks, the sun, economy BIAS: "Nations" may be ambiguous to American Indians, e.g., Indian nations, thus banks may be an obvious choice.
	8	The Titanic was an oceanliner which was thought to be unsinkable but it hit an iceberg and sank in 1912, killing over a thousand people. It would not have sunk if it had not...lost power been badly damaged carried passengers been going west
		BIAS: To individuals unfamiliar with the Titanic, any or all of the answers might be selected.

FIGURE 2 (CONTINUED)

TEST: BOSTON NAMING TEST

ITEM #	
14	Mushroom
30	Harmonica
40	Knocker
41	Pelican
49	Asparagus
57	Trellis
60	Abacus

BIAS: The expected response may be different for African American patients e.g.,

Mushroom -Toodstool

Harmonica -Mouth organ

Abacus - Counter

Proper names of other items may be unfamiliar such as pelican, asparagus, trellis, and abacus.

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