

**Title: Assessment of Brain Dysfunction in Hispanics**

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I. Personal Conveyances

II. Demographic Assumptions

A. Psychology's Mission

1. Scientific

- a. External Validation
- b. Populations & Samples
- c. Generalizability of Findings
  - (1). Beach
  - (2). Guthrie

2. Ethical

- a. Recent Revision of APA Ethical Principles
- b. Major Thrust

3. Legal- President's Commission on Mental Health (1977)

- a. Recognition of Multicultural Population
- b. Recommendation for New Services to be Offered

B. Demographics

1. Population Estimates

- a. Total Growth
- b. In California, by 2000 ethnics will be majority
- c. By 2050, more Hispanics than African-Americans, etc.

2. Fertility Rates

- a. Actual
- b. Implications (e.g., Terman, 1916, pg. 92)

3. Occupation

4. Income

5. Education

6. Injury Profile

- a. Ethnics More Prone for Head Injury
- b. Controversial- Increase Drug Use, LD

7. Projection- Overrepresented and Underserved

C. Psychology's Trend

1. Overall Interest

- a. Prior to 1970s (0)
- b. Since the 1970s (examples)
  - (1). Regression of Reynold's
  - (2). Book of Lezak's

2. Research Based Understanding vs Political Correctness
  - a. Overrepresentation of Learning Disability
3. Personnel
  - a. Faculty
    - (1). Total Percentage (approx. 5%)
    - (2). Specialization (approx. 2/3 clinical)
    - (3). Hispanics=
  - b. Students
    - (1). Graduate- trends (peak in early 1980s; MFP)
    - (2). Undergraduate (approx; % are Hispanic)
    - (3). High School  
(ETS; 23% - 10% Asians, 9% Hispanics, 4% Blacks)

#### D. Summary

1. General Demographic Trends
2. Psychology's Response (if not race, not important/pressing)
3. Mission Unfulfilled and Catastrophe Yet to Happen
4. Ethics for Some

### III. Neuropsychological Assumptions

#### A. Basic

1. Understanding of Brain Function
  - a. Cognitive as well as Motor, Sensory, Language
  - b. Executive / Higher Order (e.g., planning / organization)
2. Tests
  - a. Variety
  - b. Appropriate Application / Matching of Test to Syndrome (Boston)
  - c. Reliability / Validity (Franzen)

#### B. Faults With Assumptions

1. Basic Assumptions Are Rarely Met
  - a. Faustian Criticism
  - b. Training Discrepancies (e.g., McCaffrey & Isaac)
2. Biopsychosocial Approach
  - a. Presidential Address
    - (1). Biological vs Dichotomous Data
    - (2). Perception vs Sensation

- e. Differential Predictive Validity
- 4. Personnel
  - a. General
  - b. Neuropsychology
    - (1). Division 40
    - (2). NAN
    - (3). INS
    - (4). Two Fledging Organizations
  - c. Non-Hispanic
    - (1). Practice Surveys
    - (2). Puente Chapter in Goldstein Book

## V. Neuropsychological Assessment

- A. Background Information
  - 1. Type
  - 2. Problems in Obtaining Records
- B. Interview
  - 1. Education / Rapport
  - 2. Single vs Multiple
  - 3. Collateral
  - 4. Structured vs Unstructured
  - 5. Validated
    - a. Brief Psychiatric Rating Scale
    - b. Present Status Examination
    - c. ICD- 9 or 10
    - d. DSM III
    - e. Mini-Mental Status
  - 6. Clinician's Limitations
- C. Behavioral Assessment
  - 1. Examples
  - 2. Usefulness
  - 3. Rater Bias
- D. Testing

## 5. Method of Acquisition

### a. Anatomical

- (1). Right Hemisphere During Early Stages of Acquisition
- (2). Non-Proficient Acquisition in Left Hemisphere
- (3). Cortical vs Limbic (Rule vs Functional)

### b. Procedural

- (1). Informal Language (Functionally Based)
- (2). Formal Language (Rule Governed)

## 6. Language Specific Factors

### a. Scanning

### b. Laterality (Vowels More Left Hemisphere)

### c. Tonal Changes (Left Hemisphere)

### d. Phonetic Based Problems (Temporal)

## 7. Anatomical Dimensions

### a. Primary Language = One Neural Network

### b. Secondary Language = Another Neural Network

### c. Overlapping = A Third Neural Network

## C. Testing

### 1. Translations

#### a. Adequacy of Translations

- (1). Correct Grammar and Language (WIST: Luria-Nebraska)
- (2). Correct Methodology (back translation; Brislin)

#### b. Norms

- (1). Generalizability of Majority Norms
- (2). Generalizability of Local Norms
- (3). Lack of Norms and Qualitative Analyses

#### c. Copyright

- (1). Laws
- (2). Publishers' Perspectives = WPS, Psychological Corporation

### 2. Translators

#### a. Psychological vs Professional

#### b. Family vs Non-Family

#### c. Matching Context of Patient with Scientific Integrity

### 3. Test Bias (Reynolds & Brown)

#### a. Inappropriate Content

#### b. Inappropriate Standardization Samples

#### c. Examiner and Language Bias

#### d. Measurement of Different Constructs

- d. Puerto Rican
- 7. Acculturation
  - a. Generation
    - (1). First =Bad
    - (2). Second = Some Problems
    - (3). Third = Overall Adjustment
  - b. Age at Arrival
    - (1). Inverse Correlation
    - (2). Critical Periods (e.g., beginning of school)
  - c. Ethnic Self-Identification
  - d. Majority Cultural Awareness

## B. Biligualism as an Example

- 1. Sociolinguistic Background
  - a. Status of Both Languages
  - b. Support for Bilingualism (e.g., economic)
- 2. Types of Bilingualism
  - a. Type A / Coordinate (True Native Speaker in Two Languages)
    - (1). Separate Sounds
    - (2). Separate Meaning / Symbols
  - b. Type B / Compound (Neither Language as Native)
    - (1). Separate Sounds
    - (2). Similar Meaning / Symbol
  - c. Type C / Subordinate (One Native / One Subordinate)
    - (1). As Type B
    - (2). Equivalence
- 3. Communicative Competence
  - a. Grammar
  - b. Sociolinguistic Knowledge
  - c. Discourse & Strategies
    - (1). Serial Utterances
    - (2). Code-Switching
    - (3). Compensation for Breakdown in Communication
    - (4). Language Specific (Spanish better for romance)
    - (5). Environmentally Specific
    - (6). Global Effect / Goal
- 4. Age and Sequence of Language Acquisition
  - a. Prior to Age Five
  - b. Second Language Forgotten First
  - c. If Both, Initial But Not Later Difficulties

- (3). Isolation vs Context
- b. More Than Tests and Syndromes (e.g., McCaffrey & Puente)

#### IV. Variables Involved in Neuropsychological Assessment

##### A. General

1. Language / Biligualism
2. Culture / Ethnicity
  - a. General Aspects
  - b. Religion
  - c. Family Values (e.g., Raltionship to School Performance)
  - d. Limited Family Involvement
  - e. Focus on Work Rather Than Education
3. Social Class
  - a. Current Status = As Low as Others
  - b. Projected Status = Lower Than Others
4. Education
  - a. Overall Attainment (e.g., Drop Out Rate)
  - b. Effects
    - (1). Intelligence Correlation
    - (2). Higher Order (e.g., Category Test)
    - (3). Visuo-Motor (e.g., Ardila)
    - (4). Dementia (e.g., Berkman)
  - c. Relationship to Intelligence  
-About .50
  - d. Education and Verbal Skills
    - (1). IQ and Verbal Skills
    - (2). Critical Period of Verbal Education
5. Relationship & Understanding of Medical and Psychological Model
  - a. Overall Educational & Experience Level
  - b. Prior Experiences With Curanderos & Church
  - c. Overall Distrust Cloaked in Courteous But Abbreviated Interactions
6. Within Group Variables
  - a. Continental / Iberian / Spanish
  - b. South American (except for Argentinians)
  - c. Mexican

**1. Orientation**

**a. Mini-Mental Status**

- (1). Time= 5-10 minutes
- (2). Sections= Orientation, Registration, Attention, Calculation, Recall, Language, & Constructional
- (3). Results= Education (3 points less), also Age & Culture
- (4). Anglos= Higher Scores

**2. Attention**

**a. Cancellation**

- (1). Time= 1-2 minutes
- (2). Activity= Cancel A (based on Strub)
- (3). Score= Omission Commission
- (4). Results= Age & Education

**b. Digit Symbol Test**

- (1). Time= 120 seconds
- (2). Activity= Coding (Numbers with Symbols)
- (3). Score= Raw
- (4). Results= Age (also education)

**c. Digit Span Test**

- (1). Description= Digits Forward and Backwards
- (2). Results
  - (a). Forward- generally 6, age
  - (b). Backwards= generally 4, education

**3. Intellectual**

**a. Children**

- WISC-R (Puerto-Rican)

**b. Adults**

- (1). WAIS- Puerto Rican
- (2). WAIS- Custom Translation
- (3). WAIS- Performance Only
  - (a). Performance Better Than Verbal
  - (b). Difference Decreases With Age But Never Erased
  - (c). Picture Arrangement (Best)
  - (d). Block Design (Best Example of Fluid)

(4). WAIS- IV

(5). Other

- (a). Raven (Standard & Coloured)
- (b). Peabody
- (c). Quick Test



- (d). Baranquilla
- (e). Culture Fair Test

#### 4. Abstraction

##### a. Calculation

- (1). Description= reading & writing numbers, coding, relationships, mental arithmetic, written arithmetic, successive operations, digits forward and backward, word problems
- (2). Results= Education

##### b. Abstraction

- Possible Tests= Category & Wisconsin Card Sorting

#### 5. Learning & Memory

##### a. Wechsler Memory Scale

- (1). Description= Original Form 1 of the WMS (Russell possible)
- (2). Results= Education (& age)

##### b. Verbal Serial Learning Curve

- (1). Description= 10 Bysyllabic High-Frequency Words  
- Presentation of Up to 10 Trials
- (2). Results= Education (& age)

##### c. Tests of Memory for Unfamiliar Faces

- (1). Description= 24 Unfamiliar Caucasian Frontal, Facial Photographs
- (2). Results= Educational & Age

#### 6. Language

##### a. Boston Diagnostic Aphasia Examination

- (1). Description= Widely Used Aphasia Test
- (2). Results= Education (also age)

##### b. Spanish Naming Test

- (1). Description= 15 Drawing Items of Varying Difficulty (e.g., objects)
- (2). Scoring= 3 if correct; 2 if semantic cuing; 1 if phonetic cuing
- (3). Results= Education (& age after 70)

##### c. Spanish Reading and Writing Ability Test

- (1). Description
  - (a). Reading= letters, syllables, words, sentences, command, text, comprehension
  - (b). Writing= letters, syllables, words, sentences, cursive to print, vice versa, lower to upper case,

vice versa, written description of picture

- (2). Results
  - (a). Reading= Age X Education
  - (b). Writing= Education (age x education)
- d. Spanish Repetition Test
  - (1). Description= Repetition of phonemes, syllables, logotomes, pairs, words, phrases, sentences
  - (2). Results= Education
- e. Spanish Phonemic Discrimination Test
  - (1). Description= 20 Word Pairs Corresponding to Phoneme Minimal Pairs
  - (2). Scoring= Same or Different
  - (3). Results= Education (age with memory)
- f. Spanish Grammar Test
  - (1). Description= Complex and Lengthy Test Including; spontaneous language, sentence completion, concordance correspondence, construction (e.g., sentences)
  - (2). Results= Education & Sex
- g. Token Test
  - (1). Description= 20 Tokens in Two Shapes, Two Sizes, & Five Colors
  - (2). Results= Age
- h. Verbal Fluency Test
  - (1). Description= Number of Words in One Minute (category, or letter)
  - (2). Results= Education (age after 70)
- 7. Spatial & Praxic
  - a. Rey-Ostereith Complex Figure
    - (1). Description= Drawing of Complex Figure
    - (2). Results= Education & Age (after 55)
  - b. Draw a Cube
    - (1). Description= Draw 3 Dimensional Cube
    - (2). Results= Education
  - c. Finger Tapping Test
    - (1). Description= Finger Tapping in Alternating Fashion for 10 Seconds-5
    - (2). Results= Sex
- 8. Achievement & Aptitude
  - a. WRAT-R (norms?)

- b. Strong-Campbell (norms?)
- 9. Batteries
  - a. Halstead-Reitan
    - (1). Melendez
    - (2). Customized Translation
    - (3). Translation Only for Instructions
    - (4). Use Only Sensory-Motor Tests
  - b. Luria-Nebraska
    - (1). Heavily Verbal
    - (2). Luria-Madrid
- 10. Psychological
  - a. Projectives
  - b. MMPI-2 (Overgeneralized Norms)
  - c. 16 PF

## VI. Intervention

- A. General Resources
  - 1. Neuropsychological Rehabilitation Principles
  - 2. Resources of Hispanics (Trangram)
- B. Issues
  - 1. Family
  - 2. Religion & Superstition
  - 3. Financial Resources

## VII. Case Example

- A. Non-Forensic
- B. Forensic