Cultural Issues in the Perception of Hearing Handicap

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Introduction

- **Individuals differ in how hearing loss impacts their life.**
- **Culture can also affect how hearing loss impacts quality of life.**
- **Are there differences in perception of the impact of hearing loss between Mexican-Americans and Anglo-Americans?**

Impact of Hearing Loss

- Impact not only dependent on pure-tones and word recognition information
- Perception of hearing handicap affects rehabilitation
- Despite this
  - Individuals with similar audiograms, but with dissimilar perceptions of hearing loss may be quantified the same, rather than individually.
  - Aural rehabilitation recommendations may also be similar despite individual perceptual differences of hearing handicap.

Measuring Hearing Handicap

- Various self-assessment scales
- Few that look at other populations/cultures
  - HHIES
  - HHIES-S has been translated for use with Spanish-speaking Mexican-Americans. (Lichtenstein & Hazuda, 1998)

Cultural Issues and the Perception of Handicap

- **Cantonese**
- **Doyle and Wong (1996) indicate that cultural and linguistic factors do in fact influence the perception of a hearing problem for individuals age 49-83 (mean 66.1 years).**
  - **Up to 69% of Cantonese speaking subjects with significant hearing loss did not perceive a hearing handicap at all.**
  - **Study did shed light on the possibility of cultural and linguistic differences influencing perceptions of a hearing problem.**

Cultural Issues and the Perception of Handicap

- African-American
- Research by Pugh & Crandell, (2002) suggest that hearing handicap scores were not significantly different between Anglo-American and African-American adults.
- The study did indicate that future research must focus on cultural factors which could affect hearing handicap.

Mexican-American Culture and Health Care

- Padilla & Villalobos (2007)
  - Familism, a strong sense of family care and obligation, is considered an important Mexican-American cultural value.
  - Among Latino Elderly, positive perceptions of aging and responses to health problems are significantly dependent on a high level and quality of social support from children and other family members.
  - Those who lack strong family support may also lack needed professional care
  - Those who have strong family support have a higher probability of receiving services.
    - This may be impacted by acculturation

Mexican-American Culture and Health Care

- Padilla & Villalobos (2007)
  - Quality of care dependent on
    - Patient perception of genuine concern, respect, caring, understanding, patience
    - Inclusion of family
    - Use of patient's native language
  - Information comes more from informal sources

Mexican-American Culture and Health Care

- Perkins et al. (2002)
  - Mexican-Americans prefer family-centered decision making about terminal care.
  - They may not communicate their wishes in healthcare to family
    - Healthcare system controls treatment
    - Assumption that family already knows their wishes

Review of Relevant Background Research

- Many Mexican-Americans may not have their hearing tested even when they believe a hearing loss is present.
  - >60% of Mexican-Americans who reported having problems with hearing had not pursued hearing testing by a professional (Torre, Moyer, & Haro, 2006)
- Incidence
  - Statistics suggest that approximately 3 million Spanish-speaking Americans are adversely affected by hearing loss and be in need of Aural Rehabilitation services.
  - Lee et al. (1991) found prevalence in Mexican-American population of individuals aged 55-74 years
    - Men: 46.3%
    - Women: 34.9%

Cultural Issues and the Perception of Handicap

- **Socio-economic status, religious beliefs, traditions, family issues, etc. vary among different cultures.**
- **No research study thus far had indicated whether cultural differences among Mexican-Americans and Anglo-Americans will affect perception of hearing handicap.**

Purpose

- To determine whether differences in perception of hearing handicap exist between Mexican-Americans and Anglo-Americans who are 60 years of age or older.

Research Procedures

- **Participants**
  - **Males and females ≥60 years of age**
  - **Diagnosis of bilateral sensorineural hearing loss (PTA ≥30 dB HL)**
  - **Two groups, those who were "Mexican-Americans" (i.e., Spanish is 1st language) and "Anglo-Americans" (i.e., English is 1st language)**
  - **37 participants**
    - **20 in Mexican-American group**
    - **17 in Anglo-American group**
  - **Excluded: Subjects with conductive/ mixed hearing losses, or middle ear dysfunction.**

Research Procedures

- **Methods**
  - **Audiologic test battery**
    - **Air and bone conduction testing**
    - **Word recognition testing**
    - **Immittance testing**
  - **HHIES completed (screening version, paper and pencil)**
    - **Anglo Americans: English Version**
    - **Mexican-Americans: Spanish Version**

Word Recognition Testing

- **Word recognition testing was performed in the individual's primary language via CD.**
  - **50 word lists at 30 dB SL (re: PTA)**
  - **Native English-speakers were administered the W-22 word recognition list**
  - **Native Spanish speakers were administered the Auditech bisyllables**

Research Procedures

- **Mexican-American subjects completed the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II)**

Research Procedures: ARSMA-II

- **Acculturation Rating Scale for Mexican Americans-II (ARSMA-II) (Cuéllar, Arnold & Maldonado, 1995)**
- **Acculturation is defined as "those phenomena which result when groups of individuals having different cultures come into continuous first hand contact, with subsequent changes in the original cultural patterns of either or both groups" (Redfield, Linton, & Herskovits, 1936).**
- **An individual can be classified into one of four acculturation quadrants:**
  - **I) High Integrated Bicultural**
  - **II) Mexican Oriented Bicultural**
  - **III) Low Integrated Bicultural**
  - **IV) Assimilated Bicultural**

Research Procedures: Anglo-American

- **Subjects were given a scale developed by the investigators of this study.**
  - **The scale establishes participants' cultural heritage and education level.**
  - Educational level (last grades completed)
    - 1 = Elementary – 6th
    - 2 = 7th – 8th
    - 3 = 9th – 12th
    - 4 = 1-2 years college
    - 5 = 3-4 years college
    - 6 = College graduate or higher
  - Generation: first, second, third, fourth and fifth generations

Hearing Handicap Inventory for the Elderly (HHIES)

- Designed to see the impact of hearing loss on aged persons
- Two styles of questions
  - Emotional
  - Social
- Three scores
  - Emotional
  - Social
  - Total

Anglo-American Results

- Word recognition
  - Right Ear mean = 82.4%
  - Left Ear mean = 78.5%
- Educational Level
  - Range: 3 (competed grades 9-12) to 6 (college graduate or higher)
  - Average 4.5
- Generational Information
  - Range from 3rd generation to 5th generation
  - Average 4.5

Mexican-American Results

- Word recognition
  - Right Ear mean = 79.5%
  - Left Ear mean = 86.4%
- ARSMA II
  - 75% of participations were level 1 (very Mexican oriented)
  - None were Level V (very assimilated)

Levels		Number
Level I	Very Mexican Oriented	14
Level II	Balanced bicultural	3
Level III	Slightly Anglo oriented	2
Level IV	Strongly Anglo oriented	1
Level 5	Very Assimilated	0

Mexican-American Results

- ARSMA II, cont.
  - Anglo orientation scale (AOS)
    - 1.7 to 4.75, mean 2.66
  - Mexican orientation scale (MOS)
    - 2.41 to 6.00, mean 4.35
  - Global scores
    - 3.8 to 1.47, mean -1.69

HHIES Results

	Anglo-American HHIES	Mexican-American HHIES-S
Social	Mean = 11.88 Range 2 - 20 SD 5.36	Mean = 9.6 Range 0 – 18 SD 5.64
Emotional	Mean = 9.06 Rang 0 – 18 SD 6.17	Mean = 6.9 Range 0 – 16 SD 5.41
Total	Mean = 20.94 Range 4 – 38 SD 11.23	Mean = 16.5 Range 0 – 34 SD 10.09

Pearson-Product Correlation

- Anglo-American
  - PTA & WRS significantly correlated (RE r= -.717, LE r= -.825)
- HHIES
  - Emotional
    - No significant correlation to WR (r= -.389)
    - No significant correlation to education (r= -.293)
  - Social
    - No significant correlation to WR (r= -.246)
    - Significant correlation with education (r= -.493)
  - Total
    - No significant correlation to education (r= -.396)

Mexican-American Results

- HHIES-S
  - Emotional
    - Significant correlation with AOS (r= -.501)
    - Significant correlation with MOS (r= .443)
    - Significant correlation with Global (r= -.531)
  - Social
    - No significant correlation with AOS (r= -.107)
    - No significant correlation with MOS (r= .189)
    - No significant correlation with Global (r= -.168)
  - Total
    - No significant correlation with AOS (r= -.328)
    - No significant correlation with MOS (r= .343)
    - No significant correlation with Global (r= -.378)

Discussion: Implications for Anglo-Americans

- There were no significant correlations between perception of hearing handicap and word recognition scores.
  - Importance of using the HHIES to supplement
- There was a significant negative correlation between education and hearing handicap.
  - As the level of education increased, subjects' perception of how hearing loss affected them socially decreased.
  - Indicated that people with more education will be less negatively impacted by their hearing loss in social situations as compared to individuals with lower levels of education.

Discussion: Implications for Mexican-Americans

- Word recognition scores were not significantly correlated to hearing loss, HHIES-S scores or to ARSMA-II scores
- Average scores for the ARSMA-II Anglo orientation scale (2.66) and the Mexican orientation scale (4.35) show that the majority of the subjects tested were highly acculturated to Mexican culture.
- HHIES-S emotional was significantly correlated with the ARSMA-II
  - Moderate positive correlation to MOS
  - Moderate negative correlation to AOS
- HHIES-S social was not significantly correlated with the ARSMA-II

Future Directions

- Future Directions: Anglo-Americans
  - The level of education of the subject group was high
  - A larger subject group with a wider range of education is needed to verify the validity of the current findings
- Future Directions: Mexican-Americans
  - Majority of participants were highly Mexican-American acculturated
  - Larger subject group with varying acculturation levels
- Comparison of the two groups to each other

Summary

- Findings suggested differences among the two groups
- Anglo-Americans indicated a significant relationship between education level and the amount of perceived social handicap
  - More educated, less social impact
- Mexican-Americans indicated there was a relationship between acculturation and emotional handicap.
  - The less acculturated to Anglo culture, the more the loss impacted his/her emotional handicap levels
  - No impact of acculturation on social handicap levels
- These preliminary findings have possible implications on how treatment should vary for aging adults based not only audiometric information, but also on personal issues such as acculturation and educational level.

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