

A COMPARATIVE STUDY OF VERBAL I.Q.'S
DERIVED FROM TWO TRANSLATIONS OF
A VOCABULARY TEST ADMINISTERED
TO MEXICAN-AMERICAN CHILDREN

A THESIS
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D E D I C A T I O N

To My Parents,

Who Instilled In Me A Love For Learning

To My Husband,

For His Love And Understanding

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CHAPTER I

INTRODUCTION

It has long been a common belief that people in the Laredo area of Texas speak a language that has derived from a mixture of standard Spanish and English. This language, sometimes referred to as "Tex-Mex" has been defined as the "translation, adaptation, and usage of English words to non-existent Spanish terms."¹ These non-existent Spanish terms constitute the oral and written language of the Mexican-American population of Laredo, Texas.

Laredo's inhabitants, like those of most other border cities, are largely Mexican-American. These are people whose ancestors were born in Mexico but who became American citizens automatically after the Mexican-American War and the signing of the treaty of Guadalupe Hidalgo in 1848. All those living in the territory included in the treaty--for the most part, portions of the five Southwestern states, Texas included, became Americans.² The descendants of these people are born in the United States, but are reared in homes which traditionally and culturally remain Mexican. In addition to the present native inhabitants

¹ Aida L. Garza, "A Study of Certain English Skills of Some Spanish-Speaking First Graders," an unpublished M.A. Thesis. Texas Woman's University, August, 1967, p. 30.

² Armando Rodriguez, "Education for the Spanish-Speaking: Mañana in Motion," The National Elementary Principal, XLIX (Feb., 1970), pp. 52-53.

of Texas, there is a seasonal influx of "braceros" or migratory workers from the interior of Mexico who seek employment in the fruit and vegetable fields or in the cattle ranches of the area. Many apply for permanent immigration permits and remain in Texas, usually in the border towns.

Most Mexican-Americans speak Spanish. The mother tongue prevails as the language of the home, but it is not always the exclusive language. At one extreme are the monolingual Spanish speakers who still have very strong ties to Mexico. Among these are the "braceros" who, in spite of having little or no formal education, use a spoken language that is a pure form of Spanish. At the other extreme is a group that is well integrated into American society and whose principal language is now English. The latter group enjoys a higher socio-economic position than the former group. The majority of the Spanish-speaking Americans of the Southwest, however, are truly bilingual and bicultural. The members of this majority, together with the "braceros," are usually unskilled and semi-skilled laborers and often occupy the lower socio-economic strata of the Mexican-American society.³

The home language of most Mexican-Americans is a poor grade of Spanish. Because of their low socio-economic status, and their simple experiences, the words and ideas which their children acquire are also limited. In their homes they lack the opportunity and stimulus to

³ William R. Holland, "Language Barrier As an Educational Problem of Spanish-Speaking Children," in Part II of The Disadvantaged Learner, ed. Staten W. Webster (San Francisco, California: Chandler Publishing Company, 1966), p. 344.

develop the concepts which other children normally develop.⁴ The Spanish-speaking children of Texas enter public schools having a basic vocabulary in their mother tongue. Almost immediately they begin to learn words in English but they may never have learned the Spanish equivalent. Adult members of the family frequently have not learned in Spanish those words which the younger members have recently learned in English.⁵ The result is that bilingual children can usually speak in their mother tongue with only a rather limited vocabulary learned in the home and immediate neighborhood. When it becomes necessary for them to utilize a concept that they have learned exclusively in contact with "Anglo" culture, they have no alternative but to introduce English into their conversation.⁶ Patterson⁷ wrote that children in San Antonio coin new words in Spanish by adding a, o, and e to English nouns. Barker⁸ mentioned that English verbs are given "ar" or "iar" endings, thus permitting their Spanish conjugation. As a result, the language these children speak is that of their ancestors, but with a mixture of their

⁴ Herschel T. Manuel, Spanish-Speaking Children of the Southwest (Austin: University of Texas Press, 1965), p. 117.

⁵ Selma Fay Reynolds, "Some Aspects of Spanish as Spoken and Written by Spanish-Speaking Students of a Junior High School in Texas," an unpublished M.A. Thesis, Texas State College for Women, August, 1945, pp. 89-92.

⁶ Holland, op. cit., p. 346.

⁷ Maurine Elisabeth Patterson, "Some Dialectal Tendencies in Popular Spanish in San Antonio, Texas," an unpublished M.A. Thesis, Texas State College for Women, August, 1946, p. 111.

⁸ George Carpenter Barker, Pachuco (Arizona: University of Arizona Press, 1950), p. 18.

own "Anglo-Spano" words that they have made up when the appropriate Spanish word was not recalled or known.⁹ The vernacular has been identified in the literature as "Anglicism," "Hispanized English," "English loan words," "Pochismos," "Anglo-Spano," or, as this writer prefers, "Tex-Mex." Under any label, this vernacular has become the accepted code, and because this has been the established code for two or three generations in some homes, Mexican-American children find themselves at a loss when first entering an English-speaking education setting.

When a child from this background enters the first grade, he finds that some of his teacher's words sound familiar, and if he listens well, he may be able to interpret and understand a word now and then. He may remember a phrase heard on the television or a word said by his older siblings, but he is unable to grasp and comprehend complete meanings, English, with its multi-meaning words, rules of the preceding adjectives,* many phonetic sounds not found in Spanish, the inconsistency of vowel sounds, and strange digraphs, which apparently follow no rules for sounding, becomes an overwhelming source of difficulty for the child. These difficulties are multiplied as the child is expected to learn the completely new set of words which constitutes the English language. Because most of these children cannot learn to speak or write well enough to carry out the minimal requirements of their academic subjects, they are

⁹Fred Pezzulo, "Yes, Aprenden De Los Dos Idiomas: Collier County Bilingual Program," Hispania, LIV (March, 1971), p. 113.

*In Spanish or Tex-Mex, adjectives such as "big" or "tall" come after the modified word, not before, as is the case in English. As a result, a child who attempts a literal translation says, "The dog big ran away," or "The girl tall is pretty."

considered "slow learners." At the end of two to four years in school, the teacher refers many of these children for "special testing." They are given various standardized intelligence tests in which a mental age or intelligence quotient much below their chronological age is revealed. From this point, the children are sent to Special Education classes where, whether they learn or not, they remain with the social stigma of being "dumb."

The difficulties encountered by the first grade Mexican-American children are evidenced in the high number of elementary retentions and, later on, in the large number of secondary drop-outs. Studies have shown that in communities adjacent to the Mexican border, more than 90 per cent¹⁰ of the Mexican-American students drop two grades behind by the fourth academic year. Studies have also found that, until recently, more than 80 per cent¹¹ of Mexican-American youngsters starting school in Texas did not finish. As late as 1969, approximately 50 per cent¹² of the Mexican-American students in high schools in San Antonio and El Paso left school before graduation. The fact that such students can and do function in a reasonably intelligent manner outside of class, and that friends and family consider them bright enough to function in society, is overlooked.¹³ Today, many educators have realized that a serious problem

¹⁰Rodriguez, op. cit., p. 54.

¹¹Ibid.

¹²Ibid.

¹³Maria Urquides, "Tucson's Tale of Two Cultures," NEA Journal, Vol. 56 (Feb., 1967), p. 62.

exists, that methods of teaching bilingual Mexican-American children are inappropriate and, most of all, that the use of standardized tests as the sole measure of academic achievement and potential is an erroneous practice.

In Laredo, Texas, one widely used test for determining verbal intelligence is the Peabody Picture Vocabulary Test. This test was selected by the Speech Therapy Division of Special Education as a diagnostic tool for assessing verbal intelligence of children referred to therapy. The test has high interest value, is easy to administer, and requires only 15 minutes to administer. Scoring is accomplished in one or two minutes and no oral response is required by the subject. The test consists of a booklet with 3 practice and 150 test plates, each with 4 numbered pictures. The testee may point to or answer by saying the number of the picture (1, 2, 3, or 4) he is indicating. Answer sheets give the stimulus word for each item, the correct response number and space for recording the subject's response. Items are arranged in ascending order of difficulty, and the subject responds only to the items between his "basal" (eight consecutive correct responses) and his "ceiling" (six failures out of eight consecutive responses). The examiner places a mark over the item number of incorrect responses, these are then counted and subtracted from the ceiling score. The test scores can be converted to 3 types of derived scores: percentile rank, mental age, and intelligence quotient. Although the Peabody, like almost all other tools, has been criticized as unreliable and unvalidated, many researchers have found it to be an effective and useful diagnostic test.¹⁴

¹⁴Oscar Krisen Buros, ed., The Sixth Mental Measurements Yearbook (New Jersey: The Gryphon Press, 1965), pp. 820-21.

In Laredo, and undoubtedly in any other Mexican-American community, the Peabody test is not an accurate intelligence measure. One can easily understand the reason. The language bias works to the children's disadvantage. Since most Speech Therapy referrals come from the lower grades where knowledge of English is poor, a large percentage of these children score much below chronological age. In 1968, a therapist translated the Peabody into standard Spanish. It was hoped that this translation would be a more accurate means of assessing the children's true verbal intelligence. Results were disappointing. Over half of the total enrollees made scores below age level. Obviously, the tool still did not provide a picture of the true verbal capacities of the children. Because of the inadequacies of standard Spanish testing, this study was undertaken.

The purpose of this study was to test the hypothesis that Mexican-American first grade children would achieve higher scores on a "Tex-Mex" version than they do on either the English or Spanish versions of the Peabody Picture Vocabulary Test. Because the subjects were tested with three versions of one test, it was considered necessary to analyze the data, not only for differences in test language versions, but also for differences in orders of test presentation and in the combinations of test order and language. This further analysis resulted in a more thorough understanding of the effects of test practice and of the subjects' degree of learning from one test presentation to another. Specific null hypotheses tested were:

1. There will be no significant differences obtained between mean scores achieved by the subjects on PPVT, English, the PPVT, Spanish, or the PPVT, "Tex-Mex."

2. There will be no significant differences obtained between test orders of presentation.
3. There will be no significant differences obtained between any combination of language and order of test presentation.

CHAPTER II

REVIEW OF THE LITERATURE

Part I: A Changing Language

In reviewing the literature for this thesis, it was discovered that four theses written by Texas students of Texas Woman's University mention or deal with the peculiar language of the Mexican-American population.

In 1945, Reynolds¹⁵ concluded that the "process of carrying over English into Spanish results in various types of "Anglicisms." The interpolation of pure English words into the Spanish discourse and the formation of Spanish words derived from English are frequent." She cited chequear (to check or correct), espeliar (to spell), and mopiar (to mop) as examples.

Patterson,¹⁶ in 1946, commented on the "Anglicisms" which are formed by the addition of prefixes or suffixes to English nouns and verbs to make them look and sound like Spanish. Some examples given in her thesis are chanza (chance), and tiquete (ticket).

Montemayor,¹⁷ a Laredo student, discovered that the "Spanish that

¹⁵Reynolds, op. cit., pp. 92, 97-98.

¹⁶Patterson, op. cit., p. 111.

¹⁷Elsa Diana Montemayor, "A Study of the Spanish Spoken by Certain Bilingual Students of Laredo, Texas," an unpublished M.A. Thesis, Texas Woman's University, August, 1966, p. 15.

exists along the border is a mixture of various elements." She considers the four main divisions to be the following: peninsular Spanish (standard or correct), Mexicanisms, Anglicisms, and Pachuco." She stated that "Anglicisms" are in frequent use in Laredo and that the tendency to use them occurs even in the older generation.

Quijano,¹⁸ another Laredo student, tested children in 1968 with a "Tex-Mex" version of an English standardized test. On describing "Tex-Mex" she stated that it is a "mixture of both languages, difficult to understand by the Spanish-speaking and the English-speaking" people alike.

In the published literature, one can find two extreme views regarding the hispanized English words. At one extreme are the opinions of those who view the changes in the Spanish language with some apprehension. Barker¹⁹ wrote that many well-educated persons in the upper classes of the Mexican population are inclined to look upon the Anglicisms (or pochismos as he referred to them) with disgust or alarm. They accuse the speakers of "murdering" the mother tongue, and they speak sadly of the "distintegration" of the language.

One very strong voice against the Anglicismos is that of Mallo.²⁰ In one article he referred to these as "corrupciones" (corruptions), and compared the Anglicismos to an "epidemic which multiplies and spreads."

¹⁸Teresa Quijano, "A Cross-Cultural Study of Sex Differences Among First-Graders on a Verbal Test," an unpublished M.A. Thesis, Texas Woman's University, August, 1968, p. 5.

¹⁹Barker, op. cit., p. 24.

²⁰Jerónimo Mallo, "La Plaga De Los Anglicismos," Hispania, XXXVII (May, 1954), p. 135.

He cited one example which he called "monstrous." It was the following:

Fuí a comprar grocerias (comestibles) en la marqueta (mercado) y tuve que parquear (estacionar) el carro (automóvil) frente a una casa donde rentan (alquilan) pisos fornidos (amueblados).²¹

A translation of this sentence is as follows:

I went to buy groceries in the market and had to park the car in front of a house which rented furnished rooms.

Mallo wrote that the responsibility of fighting this "plague" lies upon the Spanish instructors of schools, colleges, and universities. He strongly encourages these to "combat" the "circulation" and "coining" of these "errors," to "put the students on guard against them" and to preserve the "authenticity and beauty of the language of Cervantes."²²

Kany²³ established that "to the alarm of purists, English influence has been spreading rapidly in many areas," even in Mexico. He attributed this influence to the hasty and careless translation of daily press dispatches, commercial correspondence, the cinema, tourists, and the like. Some examples given are chutear (to shoot), chequear (to check), and audiencia (audience).

The words carro and parquiar (car and park) were mentioned by Bowen²⁴ as being "borrowed hispanized English words." His opinion unlike Mallo's, was to defend and accept these and other hispanized words as having become part of the Spanish language, even if some were not yet

²¹ Mallo, op. cit., p. 135.

²² Ibid., p. 140.

²³ Charles E. Kany, American-Spanish Semantics (Los Angeles: University of California Press, 1960), pp. 173-74.

²⁴ Donald Bowen, "English Loan Words in Spanish," Hispania, XXXVII, (September, 1954), p. 330.

in the Spanish dictionaries. He wrote that it is unrealistic to expect a language not to change. He stated:

Languages never cease to change as long as living speakers use them, and furthermore, the rate of change is constant. This change may be internal (phonetic shifts of analogical reformation) or external (borrowings from other languages). This latter type of change is especially frequent where there is extensive contact between two different speech communities.²⁵

Such is the case in all Texas border cities.

²⁵Ibid., p. 329.

Part II: Mexican-Americans in the Southwest

Much literature can be found from the last five to ten years concerning the social and academic situation of the "culturally deprived" or the "culturally disadvantaged" Mexican-American child. The trend has emerged from mere identification in regards to quantity in the Southwest and reasons for this, to the discovery that bi-lingualism is definitely a disadvantage, both academically and socially, to the most recent beliefs which conclude that the Mexican-American child has a profound asset--the knowledge and background which enables him to learn two distinct languages.

Studies of mere identification deal with the history of the Mexicans in the Southwest. Researchers write of the Mexican-American War and of the concluding treaty which made thousands of Mexicans full-fledged American citizens. These were the first Mexican-Americans but their number does not compare with the 6 million²⁶ that are in the United States today, mostly in the five southwestern states of Colorado, Arizona, California, New Mexico, and Texas.

The next aspect the literature deals with is the "disadvantage" of being a "culturally disadvantaged." Most studies are concerned with the numbers of retentions among Mexican-American elementary schools and the high rate and number of drop-outs in the junior and the high school level. This has led to vast numbers of Mexican-Americans employed as

²⁶Armando Rodriguez, "Speak Up, Chicano," American Education, Vol. 4 (May, 1968), p. 26.

unskilled or semi-skilled labor living in conditions of poverty already inherited from illiterate Mexican-American parents.²⁷ "In 1963," said Rodríguez,²⁸ "the median level of education among Mexican-Americans was 8.6 years of school. As late as 1964, 18 per cent of Mexican-American men and 22 per cent of Mexican-American women were classified as illiterate."

Urquides²⁹ wrote of the frustrations suffered by the Mexican-American child when he is expected to learn strange concepts and attitudes through lessons conducted in English, a foreign tongue to him. She stated that "the educational process makes the child feel ashamed of his own language and his cultural heritage. Frequently, when a child enters school, his parents feel that even his name is wrong by Anglo standards, and thus, six year old Juan becomes John." Stocker³⁰ has described the educational record of Mexican-American youngsters as "tragic." He stated, "It constitutes the greatest single failure of our system to provide equality of educational opportunity in this region."

Some of the most recent writings on the subject have involved the realization that the Mexican-American child can and does have the potential to become a contributing bi-lingual citizen. The studies

²⁷Francisco Armando Rios, "Book Review of La Raza: The Mexican-Americans," National Elementary Principal, Vol. XLIX, (February, 1970), p. 57.

²⁸Rodríguez, "Education for the Spanish-Speaking," p. 54.

²⁹Urquides, op. cit., p. 62.

³⁰Joseph Stocker, "Se Habla Español." American Education, III (March, 1971), 17-18, 24-25.

revealed that while Europe has stressed the learning of several languages in their schools for many years, America has remained monolingual in the teaching of one language--English. Now the advantages of being "culturally disadvantaged" begin to emerge, and America is beginning to look at the Mexican-American child with a totally different attitude. One source noted that "In spite of their lack of vocabulary, their ungrammatical construction, and their tendency towards slang, these children have the background to become exceptionally well prepared teachers in the language departments of universities and colleges throughout the land."³¹

Throughout the evolution of views, however, one problem has remained almost constant. How does one assess the true intelligence of the Mexican-American child? Educators and researchers have long discovered that English standardized tests are not the answer. Perhaps the most revealing of these studies is one which was sponsored by the Mexican-American Education Research Division of the California State Department of Education. The investigation was directed to the question of whether Mexican-American pupils should have been placed in classes for the Educable Mentally Retarded, or whether a language barrier prevented them from being assessed properly as to their native abilities to perform tasks. The Spanish version of the Wechsler Intelligence Scale for Children was administered. Certain items needed to be reworded because norms for this test were established in Puerto Rico. Test scores which had revealed the students' intelligence quotients prior to placement in the EMR classes were used for comparison. The results showed that the average gain between the prior

³¹ Juliette McClendon and C.L. Ainsworth, "Spanish for Spanish Speakers," Texas Outlook, XLIX, (March, 1965), p. 25.

test scores and the Spanish WISC has 13.15 IQ points. The vast majority of the 83 Mexican-American children should not have been placed in special education.³²

Other studies speak of the unfairness of standardized tests in the Mexican-American population. Alzabaie, Metfessel, and Michael wrote of the culture-free intelligence tests. One early attempt was the Draw-A-Man Test (Goodenough, 1926), which was followed by the works of Cattell (1940), Cattell, Feingold, and Sarason (1947), Davis and Eells (1953), and others. Investigators using these various tests reported moderate to limited success when they had been used on children of another culture.³³ A second approach to predicting achievement in culture-free testing has been through creativity. Led by Guilford (1956, 1961), Guilford and Merrifield (1960), Torrance (1963) and others, numerous studies have been conducted. Results, although promising, have been conflicting.³⁴

The problem of testing still exists. This writer's own experience with Mexican-American children has revealed that even standard Spanish tests do not accurately measure the intelligence of the Texas border child, whose own combination of Spanish-English terms is unique. This problem of testing Mexican-American children is now receiving the concentrated

³² John T. Chandler and John Plakos, "Spanish-Speaking Pupils Classified as Educable Mentally Retarded," Integrated Education: Race and Schools, Vol. 7 (November, 1969), pp. 29-33.

³³ Abdul Jabil Alzabaie, Newton S. Metfessel, and William B. Michael, "Alternative Approaches to Assessing the Intellectual Abilities of Youth From a Culture of Poverty," Educational and Psychological Measurement, Vol. 28 (Summer, 1968), p. 449.

³⁴ Ibid., p. 450.

attention of researchers. According to one source³⁵ more and more school districts are abandoning the traditional testing program for their Mexican-American youngsters. Some are trying to devise a test with norms that will truly indicate the achievement and potential success of these children. Rodriguez³⁶ has urged that teachers halt the present testing program and examine alternate avenues for determining potential of the children. "In many cases," he stated, "a teacher has to rely almost exclusively on professional judgement" in assessing a Mexican-American child's capabilities.

Perhaps this study will help establish "Tex-Mex" as a dialect that definitely exists and that its use, as a means of testing verbal intelligence of Mexican-American children may reveal valuable insights.

³⁵ Armando Rodriguez, "Mexican-American Education Today," Integrated Education: Race and Schools, Vol. VIII (Sept.-Oct., 1970), p. 49.

³⁶ Ibid.

CHAPTER III

METHOD AND PROCEDURES

In this experiment, the writer attempted to assess the true verbal intelligence of some Mexican-American children in three border cities of Texas. Three different language versions of the Peabody Picture Vocabulary Test were used to ascertain this behavior in these children--English, standard Spanish, and "Tex-Mex." This writer's efforts were aimed at discovering which language version would yield a more accurate picture of the children's verbal intelligence. It was assumed that the highest mean score achieved on any one language version would be indicative of the value of that particular language tool for testing verbal intelligence of Mexican-American children.

The writer, under supervision of one secondary level Spanish teacher and two Laredo Junior College Spanish instructors from the Laredo area translated Form A of the Peabody Picture Vocabulary Test into standard Spanish. The source used for this translation was the Velasquez Spanish and English Dictionary. Twelve items were further translated into "Tex-Mex" for the third test. Eight other words were reworded into the more basic, but correct, Spanish terms commonly used in Laredo (See Appendix A for copies of the three tests). The source for this translation was the instructors' and this writer's own experiences in working with and listening to Laredo's children of all ages. Most of the "Tex-Mex" items and basic words were in the first 50 items of the test.

The children involved in this study were enrolled in three school districts in the Texas border cities of Eagle Pass, Laredo, and McAllen. A careful study was made of the schools' cumulative record folders, enrollment and census cards in order to match the schools to the following criteria.

1. 85 to 95 per cent of the enrolled children were from Spanish-speaking homes.
2. The school population was representative of children who came from families with a low socio-economic status, as defined by the Office of Economic Opportunity (Table I) in Laredo, Texas.

Principals of the subjects' schools permitted the writer to use regular classrooms in which to administer the tests. The rooms had adequate lighting and ventilation. They were free of noise and interruptions.

The subjects in each of the school districts consisted of 27 children in Laredo, 30 in Eagle Pass, 31 in McAllen. The total group consisted of 88 children who were chosen on the following criteria:

1. The children were Mexican-American, as identified by parentage and surname. A child from a "mixed-marriage" (Anglo and Mexican-American) was not accepted.
2. The children were beginning first-graders. An age range of 6.0 to 7.0 years was acceptable. No retentions were accepted.
3. None of the 88 subjects attended the Head-Start program or any type of Nursery school.
4. According to personal interviews with teachers, these youngsters had a total absence of, or very limited, English skills, when they enrolled in the first grade. Spanish was the predominant language spoken and understood by the child at home.
5. Spanish was spoken in the home by the parents during the time of the child's language development.
6. All of the subjects came from homes with an economic status which corresponded to that of the Office of Economic Opportunity's "poverty range" (Table 1).

7. The parents of the subjects preferred and used Spanish in the home. Their education had reached a level no higher than the intermediate elementary grades (4th, 5th, 6th). Both parents and any other adult living in the home met this criteria.
8. No children from migrant families (those who travel to other states during the summer months to work in the fruit and vegetables fields), or immigrant families (those from Mexico) were included in this study.
9. All subjects in this study were born and reared in a Texas border city.

Permission and cooperation was obtained from superintendents, principals and teachers involved.

Each child was taken from his class individually and brought to the testing room. Only one version of the test was administered on any one day to any one child. Group 1, or those children from the Laredo elementary schools, received the "Tex-Mex" version of the test first, followed by the English and then the standard Spanish. Group 2, the children from the Eagle Pass elementary schools, received the English version, followed by the standard Spanish, and then the "Tex-Mex." Group 3, the children from the McAllen elementary schools received the standard Spanish first, followed by the "Tex-Mex" and then the English. The following chart indicates the test order.

	First	Second	Third
1. Laredo Test Order	T-M	E	S
2. Eagle Pass Test Order	E	S	T-M
3. McAllen Test Order	S	T-M	E

The Simple Latin Square Design was applied to determine the significance of any differences found between the three versions of the PPVT, between the orders of test presentation, and between the combinations of test versions and order of presentation.

The Duncan's Multiple Range Test was applied to determine which particular combination(s) of language versions and order of presentation resulted in significant differences.

TABLE 1

SCALE OF INCOMES WITHIN POVERTY RANGE*
(set by Office of Economic Opportunity in Laredo, Texas)

<u>Number in Family</u>	<u>Yearly Income</u>
2	2000.00
3	2500.00
4	3000.00
5	3500.00
6	4000.00
7	4500.00
8	5000.00
9	5500.00
10	6000.00

* Garza, op. cit., p. 74.

CHAPTER IV

PRESENTATION OF FINDINGS

Presented in this chapter are the results of a study which involved comparing the measured I.Q.'s obtained from three versions of the PPVT when administered to a sample of Mexican-American children. The three language versions that were used were the English, a standard Spanish, and a "Tex-Mex." The null hypothesis states that there would be no significant differences between mean scores of Test E and Test S (English and Spanish), Test E and Test T-M (English and "Tex-Mex"), and Test S and Test T-M (Spanish and "Tex-Mex"). Other null hypotheses in this study state that there will be no significant differences between the orders of test presentation and no significant differences between any combination of language and order of test presentation.

The data obtained from the administration of the tests were subjected to statistical treatment. Results and interpretations of the data are discussed in this chapter.

In order to obtain a representative sample of Texas border children, the study was conducted in the three border cities of Laredo, Eagle Pass, and McAllen. The three tests were administered in each city. Because the cities are geographically close and because the subjects had to meet certain rather strict criteria, it was feasible to group together all the scores on the basis of test language versions rather than make distinctions between cities. The subjects consisted of 27 children from Laredo,

31 from Eagle Pass, and 31 from McAllen. Their chronological ages ranged from 6.0 to 7.0 with a mean age of 6.5. There were 39 boys and 49 girls. Groups by cities were recognized only for purposes of test presentation order.

All subjects of these experimental groups (Laredo, Eagle Pass, McAllen) received the same tests. The only difference between the groups was in the order of test presentation, which was systematically counter-balanced. Every subject received each of the tests but approximately one third of the subjects (Laredo's) received Test T-M first, the second third (Eagle Pass') received Test E first, and the final third (McAllen's) received Test S first. This procedure was employed to facilitate the use of the Simple Latin Square Design.³⁷ The use of the Simple Latin Square permitted the writer to analyze the effects of the order of test presentation as well as differences between mean scores of each test version.

When the data was analyzed for percentages, it was noted that 9 per cent of the subjects scored highest in English, 77 per cent scored highest in "Tex-Mex," and 9 per cent scored highest in Spanish. Only 5 per cent of the subjects achieved highest scores on both Spanish and "Tex-Mex."

The following Table summarizes these findings.

³⁷James Bruning and B.L. Kintz, (Computational Handbook of Statistics, (Illinois: Scott, Foresman and Company, 1968), p. 84.

TABLE 2
Number and Percentage of Subjects Scoring Highest
in the Various Language Versions

	Number	Percentage
English	8	9
Spanish	8	9
"Tex-Mex"	68	77
Equal Spanish and "Tex-Mex"	4	5

The Simple Latin Square analysis indicated significant differences between language versions and between orders of test presentation. The Duncan's Multiple Range Test³⁸ analyzed differences between combinations of language and order. Both analyses showed differences were significant at the .01 level. Table 3 gives a summary of the values involved and the F-values resulting from the Simple Latin Square analysis.

When comparing mean scores of the three language versions, the resulting 138.51 F-value was significant at the .01 level. This indicated that there was a significant difference between language versions, thus, at least one of the versions yielded scores which were significantly different from those of the other two versions. Had this F-value not been significant, the study would have shown that mean scores derived from any language version were statistically comparable and differences, if any, would have been non-significant. The first null hypothesis was rejected

³⁸Ibid., p. 115.

TABLE 3

SUMMARY TABLE REPRESENTING RELEVANT STATISTICS
INVOLVED IN SIMPLE LATIN SQUARE ANALYSIS
AND RESULTING F-VALUES

Source	SS	df	ms	F	p
Total	176,611.318	263	_____	_____	_____
Between subjects	57,119.318	87	_____	_____	_____
Groups (LO_b)	81.664	2	40.832	.06	n.s.
Error _b	57,037.654	85	671.031	_____	_____
Within subjects	115,492.000	176	_____	_____	_____
Language (L)	54,021.432	2	27,010.716	138.51	.01
Order (O)	22,367.932	2	11,183.966	57.35	.01
Language X Order _w (LO_w)	5,949.878	2	2,974.939	15.26	.01
Error _w	33,152.758	170	195.016	_____	_____

"F" at .01 (2 and 80) = 4.88

"F" at .01 (2 and 150) = 4.75

at the .01 level of significance.

When comparing orders of test presentation, the resulting 57.35 F-value was found to be significant at the .01 level. This indicated that there was a difference in scores derived from each order of language presentation, thus, at least one order of presentation tended to yield scores which were significantly different from those derived from the other presentations. The second null hypothesis was rejected at the .01 level of significance.

When comparing differences between mean scores of all combinations of language and order of test presentations, the resulting 15.26 F-value was also higher than that allowed by chance factor at the .01 level of significance. This indicated that at least one particular combination of language and order yielded significantly different scores from other combinations. The Duncan's Multiple Range Test was applied to determine which specific groups actually differed significantly. This statistical analysis was applied to test the null hypothesis that there would be no significant differences between any combination of language and order of presentation. The mean scores of the nine test presentations were ranked from lowest (E_1) to highest ($T-M_3$) in order that the range (K-value) for each difference be determined. The ranking enables all possible combinations of means to be compared. Table 4 reveals the following findings.

1. The "Tex-Mex" test presented third in the series yielded significantly higher scores than all other test presentations.

2. The English test presented first yielded scores which were significantly lower than all other test presentations.

3. The English test presented third yielded scores which were

TABLE 4

SUMMARY TABLE INDICATING DIFFERENCES BETWEEN PPVT MEAN SCORES
OF ALL COMBINATIONS OF LANGUAGE AND ORDER
OF TEST COMBINATIONS

E = English S = Spanish T-M = "Tex-Mex"									

numerically different but statistically comparable to those scores derived from Spanish presented second and third, and those of "Tex-Mex" presented second. The line drawn over the means of E_3 , S_2 , and $T-M_2$ in Table 4 indicates this finding.

4. Given prior tests in any language, the subjects achieved statistically comparable scores in Spanish and "Tex-Mex." The line drawn over the means of S_2 , S_3 , $T-M_2$, and $T-M_1$ indicates that these means, though numerically different, were statistically comparable.

5. Those scores derived from English and Spanish presented third were higher than those of English and Spanish presented first and second. However, in "Tex-Mex," the subjects made higher scores when it was presented first than when it was presented second.

In view of the findings, the third null hypothesis was rejected at the .01 level of significance.

Because the first null hypothesis was rejected at the .01 level of confidence, this indicated that there were significant differences between language versions of the PPVT. From Table 4, one can see that each of the three language versions presented first (E_1 , S_1 , $T-M_1$), yielded significantly different scores from the other two. The English version presented first yielded significantly lower scores than the Spanish version presented first. The Spanish version presented first yielded significantly lower scores than the "Tex-Mex" presented first. The "Tex-Mex" presented first yielded significantly higher scores than both the Spanish and the English versions presented first in the series. Although some mean score differences diminished between certain second and third language presentations, one can attribute this to the effects of test practice,

rather than non-differences between language versions.

The second null hypothesis was also rejected at the .01 level. This indicated that there were significant differences between test orders of presentation. Those subjects who received the tests in the order E, S, T-M (Eagle Pass), achieved the highest mean score. Those subjects who received the tests in the order T-M, E, S (Laredo) achieved the lowest mean score. However, it is necessary to understand that the interaction of the language version and the order in which the language was presented, is the most important factor, as is discussed in the preceeding paragraph and in the one which follows.

It is essential to know, not only that great differences existed between language versions and between orders of test presentation, but also that test scores differed significantly depending on the combination of language and order in which the subjects received the tests. The third null hypothesis must also be rejected at the .01 level. However, one must note in Table 4 that not all comparisons of language and order of presentation were significantly different. Of the 36 possible comparisons, nine were not found to be statistically different. It is logical to assume that the effects of test practice had much bearing on the scores achieved by the subjects in those tests taken second and third in the series.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS FOR FURTHER STUDIES, AND LIMITATIONS

This study was undertaken to discover which language version of a vocabulary test would yield higher I.Q. scores when administered to Mexican-American children. The three language versions were English, Spanish, and "Tex-Mex." The subjects were 88 first grade children of 6.0 to 7.0 years of age with a mean age of 6.5. They were from the three Texas border towns of Laredo, Eagle Pass, and McAllen. All of the subjects met certain criteria which have been described in Chapter III. The test administered was the Peabody Picture Vocabulary Test.

Three Spanish instructors from the Laredo area assisted this writer in the translation of the standardized English PPVT. The Spanish test was further revised to include 12 "Tex-Mex" terms and 8 basic Spanish terms which are commonly heard in the Laredo area. The "Tex-Mex" words are not found in a Spanish dictionary, but rather, are composites of mixed English and Spanish. References to these non-word composites which are found in the spoken vocabulary of most Mexican-American people are discovered in the published literature under such labels as "Anglicisms," "Pochismos," "Anglo-Spano words," and others.

Due to the common use of "Tex-Mex" in certain areas of Texas, this writer attempted to prove that the verbal I.Q. scores derived from such a "Tex-Mex" version would be higher than those I.Q. scores derived from the

English or standard Spanish versions of the test, when administered to certain Mexican-American children. Because the experiment involved testing the subjects with three language versions of one test, it was considered necessary to analyze the data for differences in orders of test presentation, and in the various combinations of language and test order, as well as differences between the language versions. The Simple Latin Square Design and the Duncan's Multiple Range Test were applied to analyze the data.

Discussion of Findings

The statistical analysis revealed significant differences between language versions. The English version yielded significantly lower scores than either the Spanish or the "Tex-Mex." The scores of the "Tex-Mex" test were significantly higher than the English or Spanish versions. The first null hypothesis was rejected at the .01 level of significance.

The analysis also revealed significant differences between the test orders of presentation. However, the important point to consider is the interaction between language versions and orders of presentation. The second null hypothesis was rejected at the .01 level of significance.

The analysis found significant differences between mean scores of most of the various combinations of language and orders of test presentation. Of the 36 possible mean score comparisons, only nine proved non-significant. This finding was attributed to the effects of test practice since all of the non-significant comparisons involved at least one test taken second or third in the series. The third null hypothesis was rejected at the .01 level of significance.

Conclusions

The following conclusions are based upon the findings of this study.

1. This study has shown that "Tex-Mex" exists as a functional language and that its use in the testing of beginning first grade or kindergarten Mexican-American children could result in higher I.Q. test scores.

2. Mexican-American children who have had no exposure to a formal educational setting, know and use "Tex-Mex" in their vocabulary. It is important to note that the PPVT tests only for receptive vocabulary. However, language researchers such as Myklebust,³⁹ have found that "expressive language is accomplished after comprehension has been established." This study has shown that "Tex-Mex" is at the very least, comprehensible to Mexican-American children. A significant inference that can be drawn, in view of research findings, is that their receptive language and their expressive language are correlated.

3. Mexican-American children from families of low socio-economic status know and use "Tex-Mex" in their vocabulary. The sample of subjects in this study was selected from this background because of the great abundance of children which can be found along the Texas border from low socio-economic families. However, the findings of this study cannot be generalized to those Mexican-American children from families of middle or upper socio-economic levels.

4. Table 4 indicates statistically comparable mean scores for

³⁹ Helmer R. Myklebust, The Psychology of Deafness (New York: Grune and Stratton, 1960), p. 231.

English presented third in the series, Spanish presented second and third, and even "Tex-Mex" presented second. This finding could imply that English can be taught to Mexican-American children through Spanish and/or "Tex-Mex." Two previous exposures to the test in Spanish and in "Tex-Mex" enabled the children to raise their English scores to a higher level. However, this finding could have been the result of learning the position of correct illustrations, rather than actual word learning.

Recommendations For Further Studies

As a result of this investigation, the following suggestions for further studies are presented.

1. The testing of a group of Mexican-American first grade migrant children from similar socio-economic backgrounds in three versions of PPVT to ascertain whether the influence of traveling to and living in the northern states for approximately five months out of the year, will result in highest English scores.
2. The testing of Mexican-American children from similar socio-economic backgrounds with three versions of PPVT in border towns and non-border towns to compare scores achieved.
3. The testing of beginning immigrant first grade children from Mexico and Mexican-American children with Spanish and "Tex-Mex" versions of PPVT with a prediction that the immigrant children would achieve higher scores on the standard Spanish test, and the Texas born children would achieve higher scores on the "Tex-Mex" version.
4. The testing of intermediate elementary grade Mexican-American children with three versions of PPVT with a prediction that, because they have been taught standard Spanish and English, the scores on the English

and Spanish versions would be higher than those of "Tex-Mex."

5. The testing of junior high or high school students with three versions of PPVT with a prediction of approximately equal Spanish, English, and "Tex-Mex" scores.

One of the main goals of this study was to bring to light the peculiar circumstances involving the language of border Mexican-American children. Teachers, speech therapists, and all other persons involved with the education of these children should be totally aware of the language and its development. This awareness is essential for the purpose of understanding the children's spoken vocabulary, for ability to establish the rapport that is essential in any educational setting, and more important, for teachers to guide themselves in judging or assessing the children's potential. An erroneous judgement by educators of the children's potential can result in a degrading and lasting social stigma for the children, their families, and, in part, for all those of Mexican-American heritage. Until a test or method has been devised to fit the norms and language of Mexican-American children, teachers should depend on their own professional judgement in assessing the potential of these children.

Limitations

Because of the lack of validation of both the Spanish and "Tex-Mex" versions used in this study, those I.Q. scores devised from these versions cannot be labeled as accurate. This study was intended as a pilot study, or as a first step, in establishing the fact that Mexican-American children along the Texas border speak a language that is neither Spanish

nor English, but rather, a unique combination of both languages. Because of this, a test in the resulting vernacular would yield higher scores.

1. _____

2. _____

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54. _____

55. _____

56. _____

APPENDIX A

STANDARDIZED ENGLISH PPVT

Plate No. Word

1. ____ (4) car
2. ____ (3) cow
3. ____ (1) baby
4. ____ (2) girl
5. ____ (1) ball
6. ____ (3) block
7. ____ (2) clown
8. ____ (1) key
9. ____ (4) can
10. ____ (2) chicken
11. ____ (4) blowing
12. ____ (2) fan
13. ____ (1) digging
14. ____ (1) skirt
15. ____ (4) catching
16. ____ (1) drum
17. ____ (3) leaf
18. ____ (4) tying
19. ____ (1) fence
20. ____ (2) bat
21. ____ (4) bee
22. ____ (3) bush
23. ____ (1) pouring
24. ____ (1) sewing

Plate No. Word

25. ____ (4) wiener
26. ____ (2) teacher
27. ____ (3) building
28. ____ (3) arrow
29. ____ (2) kangaroo
30. ____ (3) accident
31. ____ (3) nest
32. ____ (4) caboose
33. ____ (1) envelope
34. ____ (2) picking
35. ____ (1) badge
36. ____ (3) goggles
37. ____ (2) peacock
38. ____ (3) queen
39. ____ (4) coach
40. ____ (1) whip
41. ____ (4) net
42. ____ (4) freckle
43. ____ (3) eagle
44. ____ (2) twist
45. ____ (4) shining
46. ____ (2) dial
47. ____ (2) yawning
48. ____ (2) tumble

<u>Plate No.</u>	<u>Word</u>	<u>Plate No.</u>	<u>Word</u>
49. ____	(1) signal	75. ____	(4) destruction
50. ____	(1) capsule	76. ____	(3) porter
51. ____	(1) submarine	77. ____	(2) coast
52. ____	(4) thermos	78. ____	(4) hoisting
53. ____	(3) projector	79. ____	(1) wailing
54. ____	(4) group	80. ____	(2) coil
55. ____	(3) tackling	81. ____	(3) kayak
56. ____	(1) transportation	82. ____	(2) sentry
57. ____	(1) counter	83. ____	(4) furrow
58. ____	(2) ceremony	84. ____	(1) beam
59. ____	(3) pod	85. ____	(3) fragment
60. ____	(4) bronco	86. ____	(2) hovering
61. ____	(3) directing	87. ____	(3) bereavement
62. ____	(4) funnel	88. ____	(4) crag
63. ____	(2) delight	89. ____	(2) tantrum
64. ____	(3) lecturer	90. ____	(1) submerge
65. ____	(2) communication	91. ____	(3) descend
66. ____	(4) archer	92. ____	(2) hassock
67. ____	(1) stadium	93. ____	(1) canine
68. ____	(1) excavate	94. ____	(1) probing
69. ____	(4) assaulting	95. ____	(1) angling
70. ____	(1) stunt	96. ____	(3) appraising
71. ____	(1) meringue	97. ____	(4) confining
72. ____	(3) appliance	98. ____	(4) precipitation
73. ____	(4) chemist	99. ____	(1) gable
74. ____	(3) arctic	100. ____	(1) amphibian

STANDARD SPANISH PPVT

Plate No. Word

1. _____(4) automóvil
2. _____(3) vaca
3. _____(1) criatura
4. _____(2) muchacha
5. _____(1) pelota
6. _____(3) bloque
7. _____(2) payaso
8. _____(1) llave
9. _____(4) lata
10. _____(2) pollo
11. _____(4) soplando
12. _____(2) ventilador
13. _____(1) cavando
14. _____(1) falda
15. _____(4) cogiendo
16. _____(1) tambor
17. _____(3) hoja
18. _____(4) amarrando
19. _____(1) cerca
20. _____(2) bate
21. _____(4) abeja
22. _____(3) arbusto
23. _____(1) vaciando
24. _____(1) cosiendo

Plate No. Word

25. _____(4) salchicha
26. _____(2) maestra
27. _____(3) construyendo
28. _____(3) flecha
29. _____(2) canguro
30. _____(3) accidente
31. _____(3) nido
32. _____(4) carro de
conductor
33. _____(1) sobre
34. _____(2) recolectando
35. _____(1) divisa
36. _____(3) anteojos de
camino
37. _____(2) pavo real
38. _____(3) reina
39. _____(4) coche
40. _____(1) látigo
41. _____(4) red
42. _____(4) peca
43. _____(3) aguilá
44. _____(2) torcido
45. _____(4) dar lustre
46. _____(2) marcador
47. _____(2) bostezo
48. _____(2) caída

Plate No. Word

49. ____ (1) señal
 50. ____ (1) capsula
 51. ____ (1) submarino
 52. ____ (4) termos
 53. ____ (3) proyector
 54. ____ (4) grupo
 55. ____ (3) forcejando
 56. ____ (1) transportación
 57. ____ (1) tablero de cocina
 58. ____ (2) ceremonia
 59. ____ (3) vaina
 60. ____ (4) bronco
 61. ____ (3) dirigiendo
 62. ____ (4) embudo
 63. ____ (2) delicia
 64. ____ (3) lector
 65. ____ (2) comunicación
 66. ____ (4) arquero
 67. ____ (1) estadio
 68. ____ (1) excavar
 69. ____ (4) asaltando
 70. ____ (1) acción que demuestra
 destreza
 71. ____ (1) merengue
 72. ____ (3) utensilio
 73. ____ (4) químico
 74. ____ (3) ártico

Plate No. Word

75. ____ (4) destrucción
 76. ____ (3) portero
 77. ____ (2) costa
 78. ____ (4) iza
 79. ____ (1) lamentando
 80. ____ (2) adujada
 81. ____ (3) canoa
 82. ____ (2) centinela
 83. ____ (4) surco
 84. ____ (1) viga
 85. ____ (3) fragmento
 86. ____ (2) revolotear
 87. ____ (3) privación
 88. ____ (4) despeñadero
 89. ____ (2) acceso de
 cólera
 90. ____ (1) sumergir
 91. ____ (3) descender
 92. ____ (2) tescabel
 93. ____ (1) canino
 94. ____ (1) tentar
 95. ____ (1) pescando con
 caña
 96. ____ (3) tasar
 97. ____ (4) aprisionar
 98. ____ (4) precipitación
 99. ____ (1) cabo angular
 100. ____ (1) anfibio

"TEX-MEX" PPVT

Plate No. Word

1. _____(4) carro*
2. _____(3) vaca
3. _____(1) bebito*
4. _____(2) muchacha
5. _____(1) bol**
6. _____(3) bloque
7. _____(2) payaso
8. _____(1) llave
9. _____(4) bote*
10. _____(2) pollo
11. _____(4) soplando
12. _____(2) abanico*
13. _____(1) escarbando*
14. _____(1) falda
15. _____(4) cachar**
16. _____(1) tambor
17. _____(3) hoja
18. _____(4) amarrando
19. _____(1) cerca
20. _____(2) bate
21. _____(4) aveja
22. _____(3) arbusto
23. _____(1) echando*
24. _____(1) remendando*

Plate No. Word

25. _____(4) wine**
26. _____(2) maestra
27. _____(3) construyendo
28. _____(3) flecha
29. _____(2) cangarú**
30. _____(3) accidente
31. _____(3) nido
32. _____(4) el caboose**
33. _____(1) sobre
34. _____(2) recolectando
35. _____(1) bache**
36. _____(3) anteojos de
camino
37. _____(2) pavo real
38. _____(3) reina
39. _____(4) boge**
40. _____(1) látigo
41. _____(4) red
42. _____(4) peca
43. _____(3) aguila
44. _____(2) torcido
45. _____(4) shiniando**
46. _____(2) marcador
47. _____(2) bostezo
48. _____(2) caída

<u>Plate No.</u>	<u>Word</u>	<u>Plate No.</u>	<u>Word</u>
49. ____	(1) signal**	75. ____	(4) destrucción
50. ____	(1) capsula	76. ____	(3) portero
51. ____	(4) submarino	77. ____	(2) costa
52. ____	(4) termos	78. ____	(4) iza
53. ____	(3) proyector	79. ____	(1) lamentando
54. ____	(4) grupo	80. ____	(2) adujada
55. ____	(3) taclear**	81. ____	(3) canoa
56. ____	(1) transportación	82. ____	(2) centinela
57. ____	(1) tablero de cocina	83. ____	(4) surco
58. ____	(2) ceremonia	84. ____	(1) viga
59. ____	(3) veina	85. ____	(3) fragmento
60. ____	(4) bronco	86. ____	(2) revolotear
61. ____	(3) signalando**	87. ____	(3) privación
62. ____	(4) embúdo	88. ____	(4) despenadero
63. ____	(2) delicia	89. ____	(2) berrinche*
64. ____	(3) lector	90. ____	(1) sumergir
65. ____	(2) comunicación	91. ____	(3) descender
66. ____	(4) arquero	92. ____	(2) tescabel
67. ____	(1) estadio	93. ____	(1) canino
68. ____	(1) excabar	94. ____	(1) tentar
69. ____	(4) asaltando	95. ____	(1) pescando con caña
70. ____	(1) trique**	96. ____	(3) tasar
71. ____	(1) merengue	97. ____	(4) aprisionar
72. ____	(3) utensilio	98. ____	(4) precipitación
73. ____	(4) químico	99. ____	(1) cabo angular
74. ____	(3) ártico	100. ____	(1) anfibio

**words not found in standard Spanish dictionaries
 * words found in standard Spanish dictionaries

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